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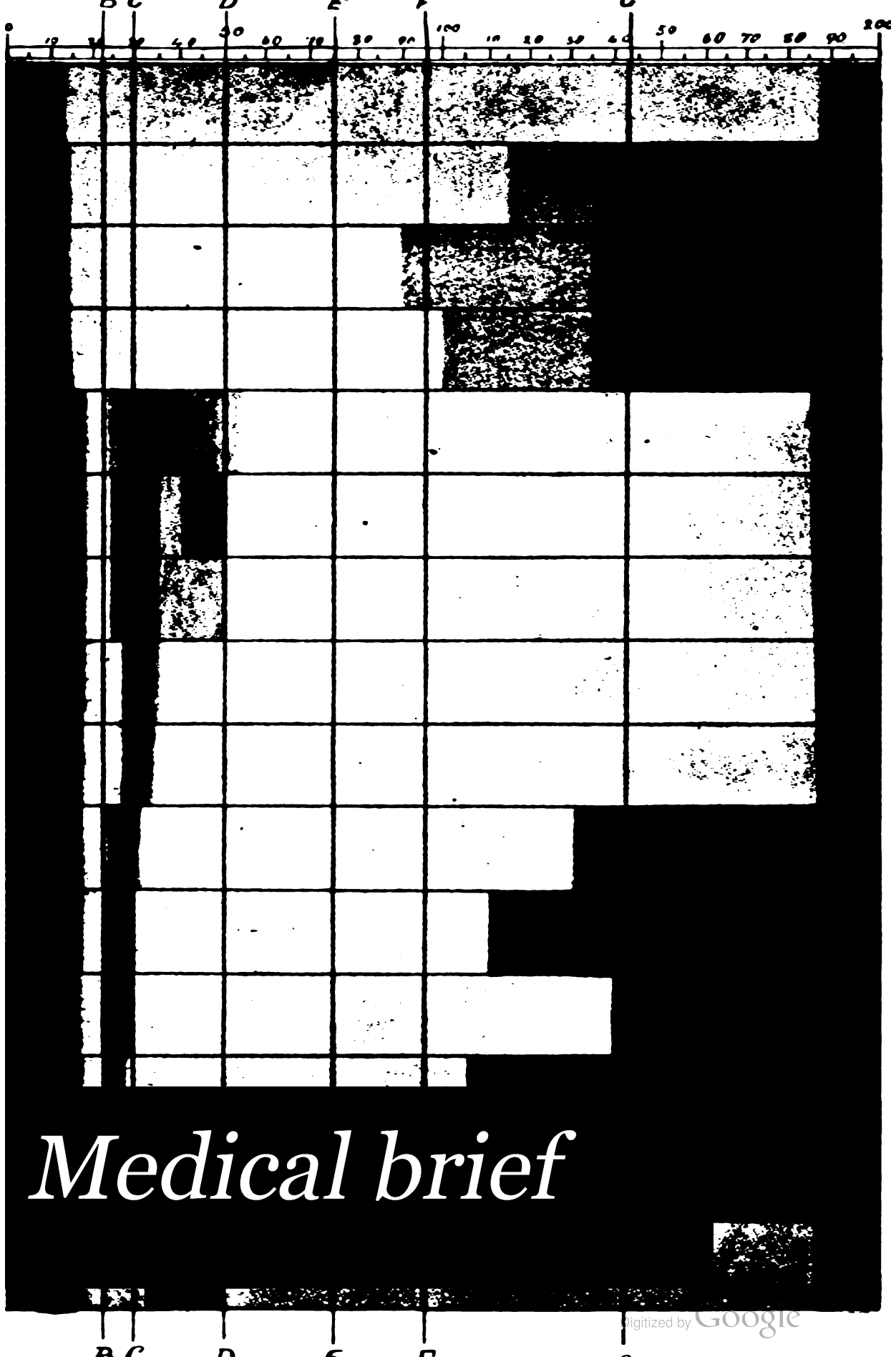

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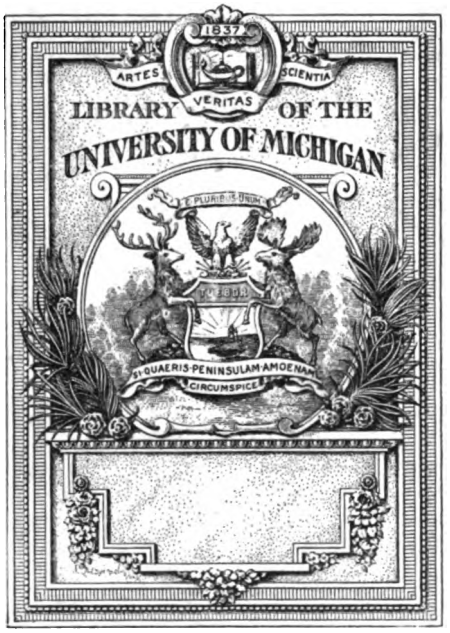

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THE MEDICAL BRIEF

A Monthly Journal of

Scientific Medicine and Surgery

Published by
HENRY R. STRONG
ST. LOUIS, MO.
U. S. A.

$1.00 PER YEAR—IN ADVANCE

VOLUME XXXVI, 1908.

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., JANUARY, 1908. NO. 1.

BLUE AND GREEN URINES.

BY WILLIAM MURRELL, M. D., F. R. C. P.,

Joint Physician to the Westminster Hospital and Lecturer on Medicine and Clinical Medicine, London, England.

[Written for the MEDICAL BRIEF.]

Specimens of blue urine are by no means uncommon. The explanations usually given, especially by those who have a minimum of physiological knowledge, is that they are due to duodenal indigestion. Trypsin, it is argued, in the small intestine, breaks up proteids into peptone, peptone into leucin and tyrosin, and, further, into indol, phenol and other bodies. Indol, by the putrefactive action of *bacillus coli* in the intestines, forms indican, which is potassium indoxyl sulphate. This theory is ingenuous and destitute of foundation. The great majority of the blue and green urines are produced artificially by taking methylene-blue. Cases of methylene-blue urine are recorded by Parkes Weber, Hughes, A. E. Garrod, Morley Fletcher, Good, A. P. Beddard and Bauman. One of the best papers on the subject—by Professor Ralph Stockinan, of Glasgow—was published in the *Edinburgh Medical Journal* of August, 1902. For some years Dr. Walsh Hake and I have devoted attention to the subject, and some of our results appeared in the *Edinburgh Medical Journal* of June, 1906.

As already stated, the majority of blue urines are methylene-blue urines. Methylene-blue is tetramethylthionine hydrochlorate. In doses of from one to three grains three times a day it is given in cases of chronic nephritis, cystitis, and gonorrhea, and also in the treatment of patients suffering from bilharzia hematobia. It has antiseptic properties, and is said to be useful in the elimination of uric acid. A quarter of a grain twice a day imparts a pea-green color to the urine, whilst the same dose more frequently repeated turns it a peacock-blue. These urines keep well, undergoing decomposition slowly. After a time, under the influence of bacterial action, they lose their color, which, however, is speedily restored on shaking, owing to the absorption of oxygen. The addition of a few drops of formic-aldehyde to a methylene-blue urine will prevent decolorization almost indefinitely.

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Not uncommonly there is a deposit of urates which retains a blue color after the fluid itself shows no indication of either a green or blue tint. A blue urine which had kept well for weeks became turbid and lost its color. A fortnight later it was filtered, and the mere act of filtration at once restored its color. Two months later, when every trace of the blue had disappeared, withdrawing the cork and shaking vigorously for a few minutes produced at first an olive-green color, then a sage-green, and finally a well-marked blue.

Sometimes the restored blue tint is confined to the upper layer of fluid, gradually merging below into the amber of normal urine. This is the explanation of the multi-colored urines sometimes seen.

A deep blue urine, mixed with tincture of iodine, is either decolorized or assumes an olive-green tint. From repeated observations, it appears that these blue and green urines are not discharged or altered by exposure to X-rays for ten minutes, or by the action of a powerful Finsen light in thirty minutes.

The majority of patients who pass these green and blue urines are not aware that they have taken any drug. In some cases the methylene-blue has been administered surreptitiously as a practical joke, and pink-coated sweets are sold for this very purpose. In other cases the methylene-blue has been introduced into confectionery as a coloring agent; this, however, is probably not very common, for in the "Report of the Departmental Committee on the Use of Preservatives and Coloring Matters in Foods (1900)," no reference is made to it. A largely advertised remedy for kidney troubles contains this ingredient. Nine-tenths of the blue and green urines are due to the action of this drug. The color gradually disappears from the urine, the process of elimination being usually completed in from two to three days. In some cases, however, traces of color are observed as late as the sixth day. The scale of coloration from the maximum to the completion of elimination is as follows: Blue, Prussian blue, bluish-green, emerald green, bright grass green, pale grass green, pale olive green, faint green, shadow, normal.

Green urines may be due to biliverdin, easily recognized by its characteristic tests, but they are not common. There is no possibility of confounding methylene-blue urine with carboluria.

White mice injected with methylene-blue exhibit blue ears and blue tails, and pass blue urine. Dr. Blaxall, of the Government Lymph Laboratories, furnished us with specimens of the urine, and we found that it gave the usual tests.

When epileptics are given large doses of methylene-blue, the ears, nose and nails assume a blue color, which soon disappears on discontinuing the drug. I find that in patients suffering from ascites, the administration of methylene-blue causes the ascitic fluid to become blue, or more.

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commonly, green. Methylene-blue is partly excreted with the feces, which present a bluish tint. The chemical tests for methylene-blue in urine are:

1. Caustic potash or soda in solution produces a violet color.

2. Nascent hydrogen and other reducing agents decolorize it, the blue reappearing after a short time in contact with the air.

3. Peroxide of hydrogen added to the article which has lost its color at once restores the blue.

4. A dilute solution of permanganate of potassium with sulphuric acid acts in a similar manner.

5. Bleaching powder has the same action.

The best tests for methylene-blue, however, are afforded by the spectroscope. These are absolutely characteristic and admit of no doubt. This we have worked out to scale in a very large number of specimens, and an abstract of the results is given in tabular form:

Table Showing Size and Limit of Dark Bands in Absorption Spectra of Normal Urines, Aqueous Solution of Methylene-Blue and Indigo, and in Methylene-Blue Urines.

No. of Spectrum.	Dark Bands. λ.	= on Scale.	Absorption in Violet end of Spectrum λ.	= on Scale.	
1	.....	....	.....	.....	Solar spectrum.
2	.....	....	437 to end	137 to end	Normal urine— 8 months old.
3	.....	....	438 "	135 "	1 day old } from
4	.....	....	438 "	135 "	" " } separate sources.
5	684–592	24–49	.....	.....	Methylene-blue aq. sol.— 1 in 50,000.
6	680–640	25–35	.....	.....	1 in 100,000.
7	680–640	25–35	.....	.....	1 in 200,000.
8	677–650	26–33	.....	.....	1 in 400,000.
9	670–650	27–33	.....	.....	1 in 800,000.
10	690–657	23–31	443 to end	130 to end	Methylene-blue urine— olive green.
11	690–663	23–29	467 "	110 "	blue green when examined, originally deep indigo blue.
12	701–656	21–31	433 "	140 "	opaque blue.
13	696–668	22–28	475 "	105 "	green when examined, originally blue.
14	677–652	26–33	433 "	140 "	colorless, becoming light blue on oxidation.
15	651–606	32–45	.....	.....	Indigo aq. sol.— 1 in 20,000.

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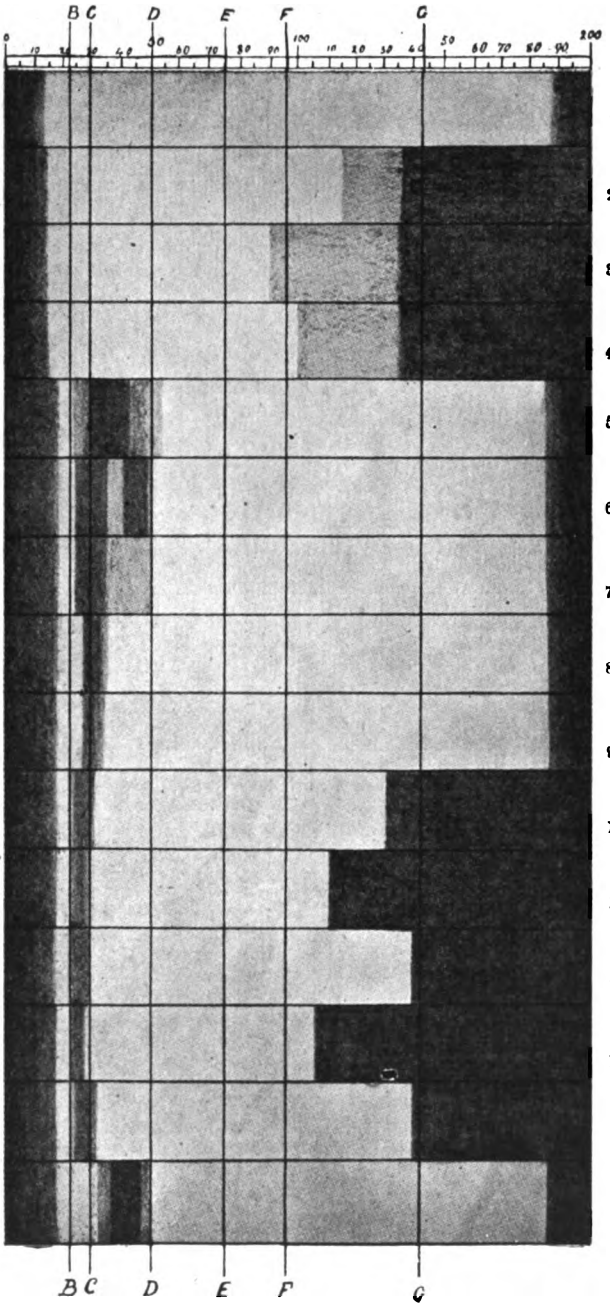
These results are shown graphically in the following plate from the *Edinburgh Medical Journal.*



1. Solar Spectrum.
2. Normal Urine.
3. Normal Urine.
4. Normal Urine.
5. Methylene Blue aqueous solution 1— 50,000
6. ,, ,, 1—100,000
7. ,, ,, 1—200,000
8. ,, ,, 1—400,000
9. ,, ,, 1—800,000
10. Urine containing Methylene Blue.
11. ,, ,, ,,
12. ,, ,, ,,
13. ,, ,, ,,
14. ,, ,, ,,
15. Indigo aqueous solution 1—20,000

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It is a matter of extreme difficulty to represent this in colors, as the work has to be done entirely by hand. This, however, was accomplished by the *Medical Annual* of 1907, in which a beautifully colored plate was presented, which, unfortunately, can not be reproduced here.

These plates show, in addition to the methylene-blue spectra, the spectrum of indigo aqueous solution is given for comparison.

It must be admitted that there are blue urines which are not due to the administration of methylene-blue, for some cases were recorded before the discovery of aniline dyes. These were probably true indigo urines, although large quantities of indigo may be taken without affecting the color of the urine. Indican or potassium indoxyl sulphate is present in normal urine, and more abundantly in cases of obstruction of the small intestine and other diseases in which there is an increase in the putrefaction of proteids. It may also occur after the administration of some drugs, such as creosote, benzoin and turpentine. It readily splits up on oxidation into indigo-blue and potassium hydrogen sulphate. The indican of urine, which is sometimes called animal indican, was so named from an erroneous idea that it was identical with vegetable indican. This last is a glucoside, and resembles animal indican only in the fact that indigo-blue is one of its products of decomposition when boiled with acids.

Indigo-blue urines are always alkaline in reaction, and are usually in a state of decomposition. The color, as in the case of the methylene-blue urines, is discharged after a time by the action of bacteria, and the color reappears on shaking with air. With nitric acid, indigo-blue is split up into isatin, and the color can not be restored by shaking. Sometimes, however, with this reagent a reddish-brown or ruby-colored solution results, due to the oxidation of the indigogens normally present in the urine. The color of the indigo solution is not altered by exposure either to X-rays or the Finsen light.

The spectrum of indigo is characteristic, and shows an absorption band in the orange (see spectrum 15).

These indigo specimens are, however, rare, and the fact remains that practically all blue and green urines are due to the administration of methylene-blue. The green urines are due to the mixture of blue urine with the natural fellow urine.

Methylene-blue is not without value as a therapeutical. It has antiseptic properties and, given internally, is used in the treatment of gonorrhea. It is said to be useful in the elimination of urea. It is also prescribed in chronic nephritis and cystitis, and with benefit. It is found to act well in patients suffering from bilharzia hematobia. I have frequently given it subcutaneously. In a case under my care seventeen minims of a five per cent solution injected deeply into the gluteal region produced a greenish urine in thirty-five minutes, and a deep-blue urine in sixty-five

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minutes. The patient continued to pass the urine for forty-eight hours, after which the color gradually disappeared.

The duration of elimination may be used as a test of the condition of the kidney with regard to disease and of the state of the renal function. Prolonged elimination is observed in cases of interstitial nephritis. Especially in the chronic form, where the tests may be obtained for ten days or even longer. Delay is also noticed in cases of enlarged prostate. This test may prove a valuable aid to diagnosis.

LEGAL PHASES OF CONTINUOUS TREATMENT.

By Alfred Clum, LL. M.,
Professor of Medical Jurisprudence in Medical Department of Western Reserve University, Ohio.

[Written for the Medical Brief.]

Professional men, in pursuing their calling, owe certain duties to their patients and clients, independent of any contract. No physician, by opening an office, or putting out a sign after having obtained the necessary certificate to entitle him to practice, is under any legal obligation to respond to any call to take charge of a new case. He is perfectly free to pick his patients, and he is at liberty to dictate the terms under which he will assume charge of any case, provided he makes these terms explicitly known to his patient before he undertakes the case. Indeed, it has been held by the Supreme Court of Indiana that a party who has been a family physician, but who was not at the time engaged in treating any one of the family, and in the absence of any contract so to do, could not be held liable for any unfortunate condition that might result from his failure to respond to a call to take charge of a case, the nature of which demanded immediate treatment. Whatever we may think of the moral ethics involved, the decisions in other States well establish the legal right of a physician to refuse to respond to a call. Suppose, however, the physician elects to respond to a call. Must he call again? How often must he call and for how long a period? Suppose absolutely nothing is said on any of these subjects, what is the duty that the law imposes upon him? Can he leave the case at his option?

An interesting case arose in Arkansas, where at a lumber camp one of the employes, Watson, was shot in the breast during a private brawl. The manager of the lumber company sent a telegram to Dr. D., asking him to come at once to treat the man, and to the telegram signed the name of the company, which was a corporation. The manager said that he signed the company's name because he did not suppose the Doctor would come if he signed it individually, as he was a stranger to the Doctor, but the company was well known. The Doctor responded to the telegram and treated the injured man not only on that occasion, but continued his

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treatment for six weeks, and subsequently presented his bill to the company and also to the general manager. The company denied it was liable, because its general manager had exceeded his authority in calling for the Doctor. The general manager refused to pay the bill, but offered to pay the charge of the first visit, which was the only visit he had asked the Doctor to make. It was held in 48 Arkansas 188, that the corporation was not liable, but that the general manager was liable, for the reason that he had acted beyond the scope of his authority in calling the physician under the circumstances, and that he was liable not only for the first treatment, but was liable for all subsequent visits.

So in the 186th Illinois 297, it was held that a physician, in the absence of a specific agreement to the contrary, must determine the frequency of his calls, and that where he has rendered such services and made continuous subsequent calls, in an action to recover compensation for such visits, the defense could not be interposed that his visits were unnecessarily frequent.

This right of a physician to determine the frequency of his visits is not free from responsibility. In answering the question he must use his best judgment, and his judgment must be an educated judgment; in other words, he must have the skill and knowledge of the ordinary physician in his school in a similar locality, and he must use that knowledge and skill together with his best judgment in determining whether or not a subsequent visit is necessary, and if so, when. If he arbitrarily leaves the case without notice, and without having been discharged, before the patient is in condition properly to get along without medical attendance, he thereby makes himself liable for any injurious consequences that may result.

In a case in Maine, plaintiff sustained an injury to the leg, and Dr. P., the family physician, was sent for. He arrived within an hour after the injury, made an examination and treated the injured leg. Nothing was said as to his calling again and he did not call. Serious results followed to the plaintiff, and suit for damages was brought against the Doctor for his neglect to continue his treatment, and the court held he was liable.

In the same State a veterinary surgeon operated on a colt in pursuance of the request from the owner so to do, but the veterinary surgeon failed to make any subsequent visits, and in consequence of the absence of subsequent treatment the colt died, and suit was successfully maintained against the veterinary surgeon by reason of his neglect to make subsequent visits.

In a case that was carried to the Supreme Court of the State of Ohio (67 O. S. 106), a lady was operated on by a doctor, who forgot to remove a portion of the sponge from the abdominal cavity, and closed the incision with the sponge remaining therein. At the time of closing the incision the doctor was not aware that he had omitted to remove the sponge.

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The operation took place on or about the third day of November, 1897. The wound was slow in healing, and a running sore was produced, requiring constant care and attention, for which running sore the woman continued to consult the surgeon who had made the operation, periodically, until in March, 1898. At that time the doctor said that if she would have patience it would run out and heal up and she would be all right. In April a similar interview and conversation took place. Relying on these assurances the woman did not again consult the doctor until November, 1898, when she called at his office, and in a conversation about the affair the patient intimated that the doctor had not done his work right. Whereupon he said, "Well, if that is the way you feel about it, you can get right out of my office; I would not do any more for you if I could." The running sore continued, and in January, 1899, the lady consulted another physician, and in April, 1899, a subsequent operation was made and the sponge discovered and removed. Under the Ohio statutes, an action based on malpractice must be brought within one year after the act complained of, and when the surgeon who made the first operation was sued he attempted to defend on the ground that action was barred by this statute. The Supreme Court held otherwise on the ground that the surgeon's duty extended not only in and about the operation itself, but also obligated him to render *"such continued further care and treatment as the necessity of the case required,"* and they held that his negligence began in leaving the sponge in the cavity, and that *it continued* until his professional relations with the patient were severed in November, 1898, and suit having been brought within a year from that date he was liable and the action was not too late.

Of course, conditions arise imperatively calling a physician away from the neighborhood. It may be important business, it may be the sickness and death of a relative; but whatever be the cause, it does not change his duty to his patient who at that time he may be treating, and he can only be relieved from the duty of subsequent personal attendance, first, by an agreement between him and his patient, or second, by giving the patient reasonable notice of his intention to leave. What is reasonable notice will depend upon the circumstances, the character of the illness, the length of time before a subsequent call is necessary, and the readiness with which another competent physician can be obtained. A longer time might be required in a community where physicians were scarce than in a city, and in critical cases the physician can not safely leave until he knows that his case is being taken care of by some competent physician.

A case arose in Maryland where a woman went to a doctor's office for treatment for a felon on a finger. The doctor lanced the felon at the first visit, February 17th, and the woman returned daily until the 22d of February for treatment. At the time of the last visit the doctor told his patient that he would be called out of the city by reason of the serious

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illness of his father, who subsequently died, and he asked that his patient go to another physician, whom he named, which physician was left to care for the other patients of the doctor who first treated the finger. The woman did not go to the other physician, but subsequently went elsewhere, and on March 2d it was necessary to amputate the finger, and she sought to hold the doctor who first treated her liable by reason of his failure to give treatment after February 22d. In this case (84 Maryland 363) the court held that where a physician, instead of going to the home of his patients, maintained an office to which his patients were in the habit of calling, the same duty devolved upon the doctor to be at his office for subsequent treatment as devolved upon the general practitioner to make subsequent visits. But under the facts stated in the Maryland case the physician was absolved from any liability by reason of the due notice of his departure, which he had given, together with the ample provision which he had made for the subsequent treatment of his patient, but which advice the patient in question neglected to follow.

A somewhat similar case was decided by Judge Taft (now of national reputation) when on the United States Circuit Court bench, for the Southern District of Ohio. In this case Mrs. E. had employed Dr. G., an oculist and surgeon, to treat her eye. He made an operation and continued his treatment until he was called out of the city. He gave notice of his intention to go, and left word with his patients that another reputable physician would look after his patients while he was away. There was some conflict in the discussion as to whether or not the patient went to this other physician, but Judge Taft held that the absence of Dr. G. under the circumstances, he having given notice and provided for the necessary treatment of his patients, absolved him from all liability, and the case was taken from the jury and a judgment entered in favor of the physician.

The same duty of continuous treatment exists even though the treatment be gratuitous. This rule is peculiar to such employments where a peculiar knowledge or skill in the employed is a part of the service contracted for. Ordinarily an agent who acts without compensation is only liable for gross neglect or wilful and malicious fraud, but a physician, although he may know that he will never be paid for any service he may render in a case, if he has once undertaken it is under obligation to see it through, unless he terminates the relationship of physician and patient by one of the two methods above given.

As well said by Justice Pryor in Becker vs. Janiski, 27 Abb. N. C. 45: "It appears that the plaintiff was a charity patient; that the defendant was treating her gratuitously. But I charge you that this fact in no way qualifies the liability of the defendant. Whether the patient be a pauper or a millionaire, whether he be treated gratuitously or for reward, the physician owes him precisely the same measure of duty

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and the same degree of skill and care. He may decline to respond to the call of a patient unable to compensate him; but if he undertake the treatment of such a patient he can not defeat a suit for malpractice nor mitigate a recovery against him upon the principle that the skill and care required of a physician are proportioned to his expectation of pecuniary recompense. Such a rule would be of the most mischievous consequence, would make the health and life of the indigent the sport of reckless experiment and cruel indifference."

The physician first treating a case who recommends another physician for subsequent treatment is not liable for any lack of care and skill on the part of a physician recommended, if such physician is practicing medicine independent from the physician recommending him. If the physician recommended is a partner, or if he is actually employed by the other physician as a mere clerk or assistant, a different rule applies, and the act of the agent or lack of skill on the part of the agent will be imputed to the principal, who will be responsible therefor.

The duty of determining what continuous treatment is necessary, and of rendering that continuous treatment, has been held to be a duty which the law imposes on the physician incident to his contract of employment, and is not itself a part of the implied contract, but a necessary incident thereto.

The patient may discharge the physician at any time, and such discharge terminates the physician's liability for subsequent injurious consequences; but of course does not relieve him from any liability which may have been incurred prior to such discharge.

Many practical reasons may suggest themselves why a physician who undertakes a case should continue the treatment thereof for his own benefit, as well as to prevent the opportunity of malpractice of others being laid, or attempted to be laid, at the door of the first physician, but the design of this paper is to make known those legal phases which the practitioner is bound to know, for "ignorance of the law will excuse no one."

QUININE TANNATE IN MALARIA.

Quinine tannate is coming into favor with Italian physicians as a very efficient remedy against malaria, especially in children. Since the bitter taste of the usual quinine preparations makes their administration to children difficult, the nearly tasteless tannate is unquestionably to be preferred. It must, of course, be given in larger doses than the other salts in order that the quantity of actual alkaloid administered may be the same. It is best given with chocolate, preferably in the form of tablets or powders.—*Pharm. Centralh.*

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THE GILLIAM OPERATION FOR DEVIATIONS OF THE UTERUS.

By D. Tod Gilliam, M. D., Columbus, Ohio.
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[Written for the Medical Brief.]

This, the original round ligament ventro-suspension of the uterus, in which the ligaments are left intact and in their natural relations, has steadily grown in favor and is now being used by many of the best gynecologists in this and some foreign countries. Its chief recommendations are: its simplicity and ease of execution; its non-interference with the cardinal functions of the uterus, pregnancy and parturition; its freedom from unpleasant sequelæ; its applicablity to all forms of displacement, and its adaptability to combined operations where time and the minimum of interference are matters to be considered.

Operation.—(1) An abdominal incision three or four inches in length is made in the median line at the usual site between the umbilicus and pubes.

(2) The adhesions are broken up and the fundus brought forward.

(3) By lifting up the broad ligament on one side on the tip of a finger applied to the posterior surface, the round ligament is brought into view and is picked up with a bullet forceps.

(4) Selecting a point an inch and a half from the uterus, a thread is passed under the round ligament, and the ends of the thread are brought out of the opening and secured in the bite of a clamp forceps, which is laid on the surface of the abdomen.

(5) The other ligament is sought for and secured in the same manner.

(6) At a point about an inch and a half above the pubes, the peritoneum, muscle and fascia are caught up by a volsella and pinned together, being careful that the edges of these layers are in line.

(7) Traction is now made, and with a claw retractor the skin and superficial fat are drawn in the opposite direction, and by a sweep of the knife the face of the fascia is laid bare.

(8) With a narrow-bladed knife, or better, with a Cleveland ligature carrier, or some similar instrument, a stab wound is made from the surface of the fascia into the peritoneal cavity one inch from the edge of the abdominal incision. If the ligature carrier is used, the jaws are separated, and by an outward movement of the handle brought into plain view at the large opening.

The thread which loops the round ligament is now placed in the jaws, the clamp forceps removed, and the ligature carrier withdrawn, bringing with it the thread and the ligament. If a knife has been used to make the perforation, it is withdrawn and a slender forceps introduced, with which the thread is caught up and the ligament drawn into place.

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(9) Now, while the ligament is held taut with the loop end just above the surface of the fascia, a catgut suture is passed through it, including the tissues on either side, and back again, where it is tied. This is cut loose to the knot, the suspending thread cut on one side close to the ligament and withdrawn and the volsella and retractor removed.

(10) The other side is dealt with in like manner and the abdominal incision closed.

50 N. Fourth Street.

INTERCOSTAL NEURALGIA.

By David N. Kinsman, A. M., M. D.
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[Written for the Medical Brief.]

Intercostal neuralgia is, briefly, pain in the chest, of a short, sharp, stabbing character, which immediately arrests respiration. It is located in the upper part of the chest, mostly above the seventh rib. It may extend to all of the intercostal nerves below, and, instead of being limited in the chest, may be felt over the abdomen.

There are two forms, one due to neuritis and the other evidently depending upon simple functional disturbance. The former is associated ordinarily with herpes. It may be due also to tabes, caries of the spine, and to meningitis. Formerly, we had many cases of intercostal neuralgia due to malarial intoxication, though this latter causation no longer exists in Central Ohio, for the mosquito that transmits it has gone, and for twenty years there have been no cases of malarial intoxication in Ohio which were not imported.

It may be confused with myalgia, pleurisy, or peritonitis. It is diagnosticated from the first by grasping the muscle in the hand and squeezing. If due to myalgia the pain is thus excited. This has no influence upon intercostal neuralgia. It is diagnosticated from pleurisy by the presence of friction sounds upon auscultation, in addition to other signs of intercostal neuralgia, as the presence of pressure points looked upon as diagnostic ever since pointed out by Valleix.

Treatment.—Treatment is rest in bed, reinforced by the application of broad adhesive strips from the spinal column behind, to the middle of the sternum in front. This compresses the chest and limits the motion of the intercostal muscles and the ribs which provokes this stabbing pain. The same treatment is equally valuable in cases of dry pleurisy. Recently it has been proposed to rub into the course of the affected nerve an ointment composed of one part of suprarenal extract to one thousand parts of lard. Internally, arsenic, quinine, cod liver oil or other fats in the diet are of value. Cups over origin of nerve of no value, I think.

603 American Savings Bank Building, High and Town Streets.

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DIAGNOSTIC SIGNS IN NERVOUS DISEASES.

By Leo M. Crafts, B. L., M. D.,
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[Written for the Medical Brief.]

Convulsions in infants are always important; they indicate at once nervous instability in the child. They may be due to any source of irritation like simple gastro-intestinal disturbance, intestinal parasites, cutting the teeth, and the like. While the individual spasm may not be serious, in the outlook is always the danger of merging into actual epilepsy, and the most painstaking attention to determining and removing the cause is essential.

Similar seizures in youth or adult, whether mild or profound, are always indicative of either epilepsy, eclampsia, or due to gross cerebral lesions; more frequently the epileptic type, idiopathic or symptomatic. History ordinarily is important. Repeated attacks of partial blanks of consciousness with giddiness should receive early recognition, as petit mal, where vigorous treatment may save bursting into the major state. If the seizure, with tonic and clonic elements retains consciousness, showing the symptomatic Jacksonian type, the indication points strongly to gross brain lesion. The recurrence in any case of attacks of vertigo alone, which can not be traced to gastro-intestinal or aural conditions, is, as a single symptom, always suspicious of brain tumor. Unremitting cephalalgia, projectile vomiting, inequality of pupils and monoplegias point equally in the same direction. Also at times hemiplegias, mental irritability, disturbances of memory, vision and hearing in varying combinations.

Various reflex reactions as a part of the sensori-motor mechanism possess signal importance; loss of patellar reflex usually indicates interference with the sensory side of the arc, becomes more significant when accompanied by reflex immobility of the pupil, and inequality in size should be noted; these being present without incertitude or lancinating pains may be sufficient for early diagnosis of locomotor ataxia. Increase in patellar reflex or variability, often accompanied by the same condition of other tendon reflexes with or without irritability, is a common condition in simple functional nervous states of the neurasthenic order. In these also quite sharp attacks of vertigo are present, and not infrequently a moderate degree of ataxia purely of functional nature.

Marked exaggeration of the patellar or other tendon reflexes, especially if clonic reaction is present in any part, more often the ankle, the conclusion must be of organic inroad upon the motor tracts.

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The great toe reflex, or Babinski's sign, is still of uncertain value, but may usually be attributed to involvement of the same regions.

The gait is usually important and requires analytic attention. The pure ataxic type points always to sensory lesion; the pure spastic form always to motor involvement; the mixed or spastic ataxic gait to trouble in both regions, and any case with apparent ataxic walk with materially increased knee-jerk can never be tabes, but is always a combined sclerosis. A spastic element should always be looked for in such a gait. The simple paretic and ordinary hemiplegic gaits are always easily recognizable.

The cutaneous reflexes are of variable value and subject to marked functional as well as organic modification; perhaps their greater importance is as an indication of the level of organic lesions in the cord.

Disturbances of cutaneous sensation obtained in widely different conditions, when not anatomical in distribution, are usually functional; when anatomical they indicate the level of sensory involvement centrally. The pure type of thermo-anesthesia usually being distinctive of hydromyelia.

Loss of muscular substance is due to simple disuse or trophic interruption, or of the primary, so-called, muscular distrophies. When trophic, showing partial or complete degenerative reaction, it always means either destruction of the motor ganglion cells of the cord or a break in the connection between them and the muscle, as in acute poliomyelitis or peripheral neuritis. Lost control of the bladder and rectum, more especially the former, while possibly functional, almost unfailingly indicates a gross cord lesion, most frequently myelitis.

Loss of symmetrical half of vision in both eyes means injury to the optic thalmus, but may occur with lesions anywhere between the chiasm and the occipital cortex.

Motor aphasia indicates gross lesion either of the cortical speech center, subcortical area, or the internal capsule at the knee. With double vision, involvement of hearing or the other cranial nerves, the indication is involvement at the base of the brain, and more often of syphilitic origin.

Finally, tremors have a certain significance. The neurasthenic is of fine vibratory amplitude. In paralysis agitans it is oscillating, rhythmic, increased on excitement, but always present. Movement of simple chorea is irregular, varying from slight to the extreme, jerky in character, localized or general. Choreiform movements occurring with gross lesions are usually confined to the areas corresponding to the central focus. Various tics and spasms occupy an individual group, and the intention tremor of disseminating sclerosis is recognized as being only that of finely adapted intended movement.

Masonic Temple.

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TREATMENT OF THE MORPHINE HABIT.

By John E. Darby, A. M., M. D.,
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[Written for the Medical Brief.]

The prevalence of the morphine habit and the difficulty and unsatisfactory results of its treatment are well known.

The treatment of morphinism as usually practiced, that is, the withdrawal of the drug, whether immediate, rapid or gradual, is accompanied with such intense craving for it, and such horrible suffering from abstinence, that the treatment can only be successfully carried out when the patient is under restraint in a hospital or sanitarium. The consequence is that the general practitioner will seldom undertake the treatment of morphinism, but turns the victims over to those advertising the cure of the morphine habit, where they frequently fall into the hands of quacks, or those occupying the border-line of medicine and quackery.

Two very important questions present themselves in this connection, viz.: First. What causes the craving and the abstinence symptoms on the withdrawal of the drug? Second. What becomes of the immense doses of morphine which are frequently taken, and why do we not get symptoms of acute poisoning?

When morphine is administered in excess, a portion of it escapes from the body unchanged, principally through the bowels; although traces are found in the urine, saliva, and milk of nursing females.

Faust, in a recent research on this subject, recovered from the feces of a dog sixty-six per cent of the morphine administered hypodermically, when the poisoning was acute. In the feces of the twenty-first to the twenty-fourth day of the administration he could recover only twenty-six per cent; and from the thirty-sixth to the fortieth day, only four per cent, and if longer continued, none at all; and this notwithstanding the fact that the later doses were very much larger than the original doses—fifty times the original amount. This would seem to show that in morphinism little or none of the morphine taken escapes from the body as morphine, but undergoes oxidation in the body, converted into oxydimorphin or oxidation products, and is slowly excreted as such. Oxydimorphin has been found in the excretions of morphine patients.

Marmi supposed that the symptoms seen after the abrupt withdrawal of morphine in the opium habit was due to the oxydimorphin remaining in the tissues. Clinical observation certainly favors this supposition.

Just what role this oxydimorphin plays in the morphine habitue has not been satisfactorily determined, but it seems probable that it acts antago-

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nistically to morphine; that it forms an antidote to the immense doses in which the drug is frequently taken and prevents the symptoms of acute poisoning—that it is this which creates the irresistible craving for the ever-increasing quantity of the drug—that it is this which compels the habitue to continue a habit which he loathes, which he knows is disgracing, debasing and slowly killing him, but which he has no power to stop; that it is this which causes that terrible train of symptoms and suffering which follow the withdrawal of the morphine, the fearful neuralgias, the persistent insomnia, the nervous restlessness and depression, etc., collectively known as the abstinence symptoms.

Ordinarily, as we have seen, the oxydimorphin is slowly excreted, but fortunately its excretion may be greatly hastened by increasing the activity of the excretory process, particularly the skin, salivary glands and bowels.

Treatment.—To prepare the patient for treatment, the bowels should be freely moved by a cathartic—castor oil is preferred—and a thorough warm bath be given the patient.

As it is always good treatment to "remove the cause," the first effort will be to remove the oxydimorphin from the system, and as this is most easily or principally eliminated through the skin, the chief therapeutic measures will be diaphoretics. The choice of these will depend on the condition of the patient and the conveniences at hand. The patient should be kept in a profuse diaphoresis for twenty-four to thirty-six hours, if possible, as it will require about this length of time to eliminate the poisons and prevent the abstinence symptoms. In some cases, doubtless, a shorter treatment may be satisfactory. Six or eight hours of profuse diaphoresis will often relieve the craving and abstinence symptoms for several days, and, what is exceedingly interesting to note, will render the individual almost as sensitive to morphine as though he had never used it, one-eighth of a grain being often sufficient to relieve pain or produce sleep; and this, too, in individuals who had been taking forty, fifty and sixty grains daily for months. But such patients are but partially cured, and unless the treatment is continued to the full time, enough of the craving and abstinence symptoms remain to induce them to resume the habit. Few patients are able to complete the treatment in one seance, but must be treated as their strength will permit.

If the patient is able to sit up, a simple home modification of the Turkish bath may be used with good effect. The patient is seated on a wooden chair, naked, and a lighted alcohol lamp is placed under the chair; the patient and chair are then wrapped in a coverlet or blanket, when the heat of the lamp will soon cause profuse perspiration. Acci-

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dents sometimes occur in the use of this means, the lamp being upset and the patient burned. A safer method would be to use, in place of the lamp, bricks or stones which have been thoroughly heated in the oven.

If the patient is in bed, sweating may be induced by placing a lighted lamp on the floor beside the bed, and inverting over this a large funnel, to which a pipe or tube is attached, to conduct the hot air underneath the bed clothing. A cradle should be placed over the patient to raise the bed clothing from the body so the hot air may surround him. Placing bottles of hot water in the bed around the patient is an efficient means of inducing diaphoresis. Care should be used lest the bottles are placed too near the patient and he be burned. The hot pack may be used.

These and other means will present themselves to the intelligent physician to produce diaphoresis. Pilocarpin may be used in connection with any of the above mentioned means, both to increase diaphoresis and for its sialogogic action, but if the heart be very weak it should be used with care, if at all.

The sweating should be continued as long as the safety of the patient will permit. Some patients can endure eight or ten hours of profuse sweating without difficulty or danger, while others are exhausted in three or four hours. As soon as the sweating has been carried to the limits of safety, the patient should be sponged off and placed in a dry bed to rest and recuperate.

While this treatment is being carried out, the patient should be carefully watched and strychnia, digitalis, quinine, nitroglycerine, whisky, etc., administered as required. Water may be given freely to promote sweating, and easily digested food, as milk, milk punch, egg-nog, or the predigested foods, may be given at intervals.

After a day or two, or as soon as the patient has rallied sufficiently, the sweating should be repeated, and this treatment continued until the patient has sweated at least twenty-four hours—thirty-six is better. When this is done, there is little or no craving for the drug, and the abstinence symptoms are largely or entirely avoided.

Sometimes a serious diarrhea continues for some time, and may need astringents, etc., to control it, but the morphine habit is gone. The oxydimorphin or oxidation products have been eliminated and we have a simple case of mental and physical debility to treat. Tonics and time will be required to restore the patient's strength. It may require several months for the patient to recover his normal mental and physical vigor, and until then it would be unwise to attempt to resume the active duties of life.

2053 E. 105th Street.

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THE PRACTICAL SIDE OF SMALL-POX.

By E. G. Horton, B. S., M. D., Columbus, Ohio.
Professor of Hygiene in the Ohio Medical University, Health Officer of the City of Columbus, Etc.

[Written for the Medical Brief.]

Small-pox is an evil to which one may well apply the old adage: "An ounce of prevention is worth a pound of cure." This is a truth which has been well established in the late outbreak in the City of Columbus. Some suggestions of practical importance may not be out of place at the present time.

Universal vaccination would, of course, solve the problem, as has been so aptly demonstrated in instances that are so well known as to need no citation, but there are some people who do not, or will not, believe in vaccination. These might be divided into two classes: First, those who hold erroneous ideas concerning vaccination because they are not properly informed on the subject. For this class there is hope, and we find that the number in this group is rapidly diminishing, due to the educational influence that is going on at the present time. Together with the demonstration of the splendid results obtained in the prevention of small-pox by vaccination. The second class might be termed obstinates, who will not listen to reason, and absolutely refuse to give vaccination any consideration. Occasionally the disease strikes in this class in such a way as to bring the truth home, but in no other way are we likely to reach these people unless we have compulsory vaccination under State laws. Wherever it is not possible to secure universal vaccination, I wish to state to the general practitioner the value and importance of prompt vaccination of all exposures. It is unquestionably true in mild small-pox, at least, that a vaccination may be made three or four days after the exposure, and resulting in a successful take, will protect the exposed person from small-pox; this is a fact too little recognized by many practitioners. On the other hand, a recognition of this fact should never serve as an excuse for delay in vaccination, because in the more virulent types of small-pox there is not the same margin of safety. One rule should be adopted, that every exposed person should be vaccinated without delay. As illustrative of the value of prompt vaccination after exposures, I would cite the following cases recently occurring in this city:

A young woman in the pustular stage of small-pox spent the evening in the family of Mr. B.. It was not known until four days later that the young lady had small-pox. Therefore, four days after the exposure, the family of eleven was vaccinated, ten of them never having been vaccinated previously. All of the ten secured a successful "take," and escaped small-pox.

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In another family (that of Mrs. B.), there were five members, and a boarder made the sixth occupant of the house; the last-mentioned individual fled from the house in the papular stage of the disease, having slept until that time with a young son of the family. He was promptly vaccinated and no infection followed.

A driver for a large firm employing many such workmen had a mild attack of small-pox, and was on his wagon until it was learned that he had the disease. All the other drivers and other workmen were promptly vaccinated by the medical inspector of the city. It so happened that one driver was absent on the day of vaccination, and his absence was overlooked by the firm. This driver was the only man who subsequently developed the disease. His wife, up to the appearance of the eruption, had been unvaccinated. She was promptly vaccinated, and, refusing to be separated from her husband, accompanied him to the contagion hospital, nursing him throughout the disease, and was fully protected by her vaccination.

In another firm a driver had small-pox, and the head of the firm insisted that every driver employed by him be vaccinated or cease his work. All were vaccinated, and no subsequent cases of small-pox appeared.

Small-pox broke out in a family of ten, six of whom were adults, and being called chicken-pox, spread until nine of the ten had the disease. The trouble was not chicken-pox, but was small-pox, and the only man who escaped was a vaccinated man. The head of the family in this case, a man forty years of age, had been vaccinated before he was a year old, and not subsequently. He had the disease so mildly that he was not sick, and had only a couple of spots on his face, and very few on his body.

Small-pox having broken out in a saloon, and being unrecognized for a few days, there were exposures covering a considerable section of the city. A number of physicians were promptly sent to that portion of the city and in a house to house canvass vaccinated nearly the entire population of the district. As but two cases developed later in that district, and as there were many hundred vaccinated people who had been exposed, the value of vaccination is evident. Of the two cases developing subsequently to this general vaccination, mention should be made in each case. One was a young man who absolutely refused to be vaccinated, although earnestly entreated, two days after his exposure. Two weeks later he was in the contagion hospital with small-pox, regretting that he had refused to be vaccinated. The other case was that of a pregnant woman, whose physician had advised her against vaccination on account of her condition. As she had just been exposed this was a mistake, vaccination should have been done. Result was that the woman gave birth to her child one evening, and the eruption of small-pox appeared the next day. It is expected that this case will prove fatal, the patient suffering from an attack of the semi-confluent type of disease. In this connection it may be stated that the child was vaccinated before it was twenty-four hours old, and the vaccina-

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tion now (eight days later), gives every indication that it is going to protect the child from small-pox.

Illustration of the protective value of vaccination in a nursing child occurred in the case of Mrs. N. She suffered from an attack of small-pox of moderate severity while nursing her six-month's-old child. The child was vaccinated just as the mother had finished the papular stage. The child continued to nurse, and is yet nursing. The child's vaccination "took," and has shown no evidence of the disease.

When such illustrations as these are laid before thinking people, it would seem that prompt vaccination should have no opponents, and it is to be hoped that the general practitioner will bear this in mind and impart such information to his patients as will aid in stamping out small-pox, even though it has gained an entrance into a community.

2506 High Street.

ALCOHOL AS A PARALYZANT, NOT A STIMULANT.

By Charles Fordyce, A. M., Ph. D.
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[Written for the Medical Brief.]

Alcohol belongs to the class of drugs known as anesthetics and was formerly much used in narcosis; its depressing effects are well illustrated in its action on the cutaneous vessels where, because of the paralysis of the vasoconstrictor centers, a dilatation of these vessels results, calling the blood from the centers of the body to the surface, where increased radiation gives a lowering of temperature, while the excess of blood in the region of the sensory nerves of temperature leads to the deceptive feeling of increased warmth: the thermometer, however, reveals the facts. The paralyzing effects of alcohol are believed, according to recent investigation, to account for the change in heart action; here, as in the cutaneous vessels, alcohol affects the centers of circulation, the increased pulse being due, not to a stimulation of the acceleration center, as formerly believed, but in reality to paralysis of the cardio-inhibitory mechanism, thus removing the brake and allowing the heart to go forth at a more rapid rate, just as the removal of the brake of a bicycle leads to increased speed on a decline without an increase of the propelling power; the most serious effects of alcohol come from the paralysis of the higher brain centers. One of the important functions of these psychic centers is to control by stimulating or by exercising an inhibition on the lower or animal centers. These higher centers, being the latest acquisition of man, are the most delicate and tender, and, therefore, yield more readily to narcosis; the inhibition of the lower centers being released, the appetites and passions assume ascendancy, thus lowering man's mental and moral status.

223 E. Walker Street, University Place.

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PRACTICAL POINTS IN MASTOIDECTOMY.

By George B. McAuliffe, M. D., New York City.
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[Written for the Medical Brief.]

The technique of the mastoid operation has been elaborated so well, by aurists, that its details are generally known. Nevertheless, to the tyro, or to those who perform it infrequently, a few practical points may be of benefit.

The common mistake is to work in too small a field, in the endeavor to minimize the surgical procedure, or to lessen the loss of blood. This mistake is realized when a greater excavation becomes imperative, and we lose time by the necessity of enlarging the field in the midst of an operation. The obscuration of the landmarks in a small field leaves the operator floundering about in his endeavor to find the antrum and to avoid the lateral sinus. The loss of blood quite often is of distinct advantage, in that it diminishes the inflammatory turgescence throughout the ear, thereby hastening the resolution of the edema of the tubo-tympanic mucous membrane, and the resorption of inflammatory exudates which might jeopardize audition by their constructive metamorphosis.

In the preparation of the field, for sentimental reasons generally, the hair is shaved over too small an area. The general rule is to shave radially from the ear about three inches. It is better to shave well towards the neck, since this part of the hair is difficult to confine by a towel, and, during the progress of the operation, has a tendency to get into the wound, owing to the slipping of the towel. Furthermore, if a more extensive exploration is rendered necessary by the discovery of pathological extension of the infection, the additional incisions are not delayed, as they would be if the shaven area were small. In the best of operations it is difficult to keep the hair from straying into the wound. Very little attention is paid to the antisepsis of the contiguous hair. The cyanide paste of the English surgeons would render the hair inocuous, but we generally rely on the thorough antisepsis of the wound at the conclusion of the operation, and very few mastoidectomies, therefore, are performed as aseptically as surgical purists would demand. Nevertheless, infection rarely occurs from the outside.

After shaving, a strip of rubber plaster should be applied at the edge of the hair, so as to effectually confine it; over this the towel is brought in the usual manner, and the overlapping ends pinned at the forehead.

In making the curvilinear incision as close to the pinna as possible to cause the subsequent scar to be inconspicuous, the knife-edge should slant backwards away from the auricle. If it be held perpendicularly to the

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surface, close to the auricle, it may cut the cartilage of the pinna. By slanting the knife-edge backwards, the cuticular cut is close to the auricle, while the deeper parts of the incision are away from it. In this way a beveled cut is made. The incision in the hands of beginners does not hug the curve of the auricular attachment sufficiently. It is apt to be made straight up above, instead of curving around to the top of the pinna. The forward traction of the auricle is thus somewhat interfered with, and insufficient exposure of the suprameatal spine, or fossa, is caused, especially in boggy mastoids.

The backward cut at right angles from the middle of the curvilinear incision is always of advantage, even when the tissues are not boggy, since it permits a larger exposure of the mastoid, facilitates further exploration, and renders easier the retraction of the posterior inferior flap containing the attachment of the sterno-cleido-mastoid muscle—the clean separation of the fibers of which, by the scissors, is an important feature in the removal of the tip of the mastoid and in avoidance of sterno-cleido-mastoid myitis.

While the bleeding of an inflamed mastoid may be excessive, ligaturing of the vessels is rarely required. The hemostatic forceps and the thorough retraction of the flaps are sufficient. Occasionally from underneath the posterior inferior flaps the bleeding becomes excessive, and can not be reached by the forceps. A greater retraction of the flaps will often control it or bring the bleeding point into view.

This chiseling, curetting and rongeuring of the bone are simple surgery. It is deplorable, however, to see the lack of skill and confidence in handling the chisel and mallet, and the consequent loss of time. One would desire that a little wood-carving had been practiced preliminary to bone surgery. The curette should have all the force expended in its expulsive stage, *never in its entering attack,* thereby preventing the sudden breaking into parts not desired.

As has been often pointed out, the exposure of dura is of very little importance, yet occasionally one has a meningitis as a sequel, which is covertly acknowledged as due to careless curettage.

The rongeuring of the tip should be clean and minute, to avoid the plucking out of large pieces with muscle attached. The careful retraction of the flap, as mentioned above, will minimize the danger of this accident. It is pretty well acknowledged that with a careful osteoectomy traumatic temperature is exceptional.

The sterilization of the wound by alternate flushings of a reliable antiseptic and alcohol is a standard method. The wound is not mopped, but the initial packing of iodoform gauze is used to absorb the medicaments, while the skin is cleansed and the soiled head dressing removed. The packing is then removed and iodoform gauze strips inserted, as usual; not too

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tightly, for, unless there is considerable bleeding, the first dressing is used more for drainage.

The pain occasioned by the removal of the first dressing should be taken into consideration when packing, therefore the gauze should not be too tightly impacted. It should be allowed to remain until tissue protection is established. I have allowed it to remain as long as ten days. The disadvantage of this prolonged retention, however, is found in the disintegration and encapsulation of the gauze. I do not see any advantage in the rubber wick dressing, except in the ease of its removal. It must be removed much sooner than the ordinary gauze dressing, and the wound is thereby exposed to the air before protective granulations have formed.

It is rarely necessary, after a careful first dressing, to do more than repack the wound quickly and firmly.

Iron should be given as soon as the patient is afebrile, and balsam of peru may be used locally in the absence of healthy granulations.

The outside dressings are retained better by strips of adhesive plaster, applied in different directions, than by pins.

53 E. Seventy-sixth Street.

DRUG EFFICACY.

By William E. Leonard, B. A., M. D., Minneapolis, Minn.
Professor of Materia Medica and Therapeutics in the Homeopathic College of the University of Minnesota.

[Written for the Medical Brief.]

How many physicians actually believe in the power of drugs to cure disease? The times seem rife with medical agnosticism—a sort of therapeutic nihilism invades the profession and possesses them. Prescriptions are written, but the doctor would not use them himself, and he does not expect much from them, and, because of this, I believe that the profession is itself to blame for the reaction on the part of the public towards osteopathy, chiropractic, vitopathic and Christian Science methods. Apparently the only branches of the profession which still believe in drugs are those who have made a special study of their effects and the most effective measure in dosage. It may be that these branches of the profession will succeed in bringing about a more sane belief in the power of drugs.

The undoubted efficacy of quinines in malaria and of opium to assuage pain, and the undisputed cathartic effect of many drugs, is unquestioned, but these are exceptions.

We homeopathists, after a century of growth and constant belief in the specific effect of drugs, claim to have a far more complete array of remedies for almost all acute and many chronic ailments. And the two cardinal principles of our belief in drug power are, first, the well-known law of *similia,* and the minimum dose, the two probably going together.

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To illustrate definite drug action: Many times have I seen a certain medicine (a vegetable drug), well known in all schools, to be a liver specific, taken for weeks, one-tenth of a grain doses each night, remove undoubted accumulations of gall-stones. In this case gall-stones had been diagnosed by competent physicians and the patient made ready for operation.

Again, in chronic cases, I have seen small doses of arsenic palliate for a brief interval, while smaller doses lengthened that interval, and doses commonly called infinitesimal make dying an easy matter.

We know that belladonna will relieve congestive headaches if given in minute doses. We believe because it induces congestive headaches; and we know that some belladonna in a dose almost infinitesimal cures still other similar cases when the first dose will not. These facts go to show, to our minds, that the smaller dose is the better one, provided the remedy is the right one. And, to confirm this, the Herter lectures at the Johns Hopkins this fall (given by Sir A. E. Wright), fully corroborate by definite experiments the efficacy of small doses. It was shown that, after a reasonable dose, there was considerable reaction and a little elevation of opsonic index, whereas, with smaller doses up into what would be ordinarily considered infinitesimal, the reaction and the opsonic index was higher.

This is exactly in accordance with what homeopathists have believed since Hahnemann's time, merely using different terms. What he calls reaction we call aggravation; his opsonic index is Hahnemann's "active vital energy," or dynamics. Terms are nothing, but the facts are what we are after. We claim that the proper use of all medicaments is based upon the fact that they have caused similar conditions in health. *All* is a broad term, but we claim that all real cures can be accounted for in that way, and while physiological and palliative measures are often necessary, and the only expedient means, the cure must come along these lines. We have all read of the case of Dr. W., in whom cancer was produced by the long-continued use of the X-ray machine in treating this disease among his patients.

Homeopathists have always invited free criticism and use of their drugs along the lines of proper practice. "Try for yourself and be convinced" has been our motto, and the longer a man practices homeopathic medicine the greater is his faith in drug efficacy.

We deplore greatly the unbelief of the profession as to the efficacy of drugs, especially in pneumonia. With few exceptions, it is a positive disgrace for a homeopathist to lose a case of that disease, because we have at least half a dozen drugs which specifically cause and cure pneumonia. And other diseases might be given as similar illustrations. It is our belief that the salvation of the profession as therapeutists lies in recovering their faith in the efficacy of specific medication.

819 Andrus Building.

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LUPUS EXEDENS—REPORT OF CASE.

By Sterling B. Taylor, M. D., Columbus, Ohio.
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[Written for the Medical Brief.]

N. J., a girl twenty-one years old, was referred to me by Dr. E. T. Tidd. Previous history: Father and mother dead; cause of death unknown. The girl, very early in life, began to lead vicious habits, and at nineteen years of age was operated on at the Protestant Hospital by another surgeon for hemorrhoids. A few weeks after this operation an ulcer appeared around the anus, which absolutely refused to yield to treatment. The girl was transferred from this hospital to the county infirmary some two months after the original operation.

I saw the case some months after she had been taken to the county infirmary. At that time the ulcer extended for an inch and a half from the anus in all directions, making a diameter of about three inches. The base of the ulcer was tough, fibrous; the edges were slightly undermined, showing that there had been somewhat of a tendency to cicatrization, and yet cicatrization was imperfect. The edges resembled those of a tuberculous ulcer.

There had been a history of pain primarily, but in the later days of the trouble there was very little, if any, pain. The ulcer bled freely if the patient used hard or coarse paper as a detergent. There was a strip of ulcer running up along the labia on one side to the width of one inch, with the same peculiar characteristics as the larger ulcerated area.

I made a diagnosis of lupus exedens, and had the patient prepared for operation. I thoroughly curetted the wound down to the thick, heavy, fibrous base, and I was able to confirm my diagnosis. After curetting the wound, I applied the thermo-cautery, being careful not to burn too deeply --burning the entire field. Put on a dressing of ten per cent methylene blue, keeping the gauze soaked with this solution throughout the stage of convalescence. In addition to this I prescribed increasing doses of iodide of potash, going up to sixty to one hundred grains at a dose.

The girl left the institution at the end of five weeks, the wound was entirely healed, and the surface was perfectly smooth. In my mind there can be no doubt as to the diagnosis. In connection with this I would say that methylene blue, ten per cent solution, applied to small ulcers, keeping the wounds moist with this solution continuously, will effect a cure in the majority of cases. Occasionally it is necessary to freshen up the ulcerated edges before applying this dressing. This is also an excellent dressing in chancres, and in primary specific ulcers.

70 S. Grant Avenue.

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NORMAL FIXATION OF THE UTERUS.

By Byron Robinson, B. S., M. D., Chicago.

[Written for the Medical Brief.]

We have discussed the structure of the pelvic floor—muscularis, fascia—as separate factors, and compared it to the abdominal wall in other regions. In fact, the pelvic floor, though complicated by apertures—urethra, vagina and rectum—is comparable to the other portions of the abdominal wall, as the distal and ventral abdominal wall complicated by the hernial, inguinal operations, canals, which, though they do not transmit excreta or other factors of commerce, yet transmit structures maintaining patent canals.

We have discussed the normal position of the uterus as that of mobility, similar to that of the testicle, wrist joint, enteron. In short, a uterus is in its normal position when perfectly mobile. A uterus is in a pathologic position when fixed—abnormally fixed by disease—peritoneal exudation, sacro-pubic hernia, neoplasm. Here we will discuss theoretically, practically and, especially, clinically, the normal fixation apparatus of the uterus. We wish to remark on the rational utility of uterine supports as to gynecologic surgical procedures. At this point I wish to refer the reader to an excellent and valuable book, recently published (1907), by Dr. Josef Halban, "Privat Docent fuer Geburtshilfe und Gynakologie in Wien, and Dr. Julius Tandler, Prosektor der I Anatomischen Lehr-Kanzel in Wien." The title of the book is "Anatomie und Aetiologie der Genital Prolapse beim Weibe." The first reason the book is valuable is that an able philosophical, conservative gynecologist—Dr. Josef Halban—has composed the gynecologic portion. Second, an excellent, practical anatomist has added his labors combined—gynecologist and anatomist. The third reason the book is valuable is because it completely agrees with my anatomic and gynecologic teachings for the past fifteen years, as it teaches as irrational visceropexy (hysteropexy) and Alexander operation. The combined knowledge of anatomy, physiology and pathology is required to comprehend the utility and rationale of any and all surgical procedures. At the present time it is my opinion that numerous, unnecessary, harmful operations are frequently performed. These unnecessary and harmful operations are based on irrational views of initial symptoms previous to operations and symptoms subsequent to operations. In short, neurology is mistaken for gynecology. Nervous symptoms are mistaken for uterine symptoms; *e. g.*, an uncomplicated so-called retroversion requires neither surgical nor medical aid. In general, it may be said that the uterus is *suspended, supported* and *fixed.* The uterus possesses no single dominating support. The uterus is supported by every structure with which it is connected. The fixation apparatus of the uterus consists of every fibrous thread that binds it to adjacent structures—viscera and abdominal

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walls. No single fiber or combination of threads that fixes the uterus predominates—as elastic fiber, musculo- or ligamentous fiber (connective tissue). Every fibrous support of the uterus is distensible, yields, and nowhere in the body is the distensibility of different forms of fibers—elastic, muscular, ligamentous—so evident as in uterine prolapse or sacro-pubic hernia. We may note the common observation of the distensibility of fibers in splanchnoptosia. The vessels, nerves, muscles and ligaments may be doubly elongated. An artery will elongate several inches, however, compromising the parietes and lumen of the vessel, and, consequently, blood supply, which is the life of tissue, and its diminution decreases tissue vitality. Nerve fibers are enormously elongated in splanchnoptosia; this traumatizes the periphery, cord and center of the nerve, inducing neurosis. In splanchnoptosia the muscular fibers elongate, disturbing peristalsis. In short, in splanchnoptosia the muscle tissue, the connective tissue, elastic tissue and nerve tissue is elongated, distended, damaged, and consequently the parenchyma of the viscera functionate under difficulty. In splanchnoptosia of the genitals and pelvic floor, which is identical with sacro-pubic hernia or so-called uterine prolapse, the muscular tissue, elastic tissue, connective tissue (ligamentous), nervous tissue is elongated, distended, and the tractus genitalis (with pelvic floor) functionates under difficulties. For example, the *vessels* being elongated, distended, their lumen is compromised and conducts a minimum quantity of blood—nourishment is impaired, for it is blood that maintains healthy tissue and cures its disease. The *nervous* tissue is elongated, distended, and the nerves (periphery, cords and center) are traumatized—neurosis results.

The *muscle tissue* is elongated, distended, and peristalsis is disturbed, and it is peristalsis that is the manifest life of an organ; it includes its secretion and absorption, as well as it governs, the blood supply. Defective peristalsis means defective secretion, absorption, blood and lymph circulation. With defective peristalsis, venous congestion occurs with consequent hypertrophy and pain. The distensibility of smooth muscle may be observed in gastric, cardiac vesical dilatation. The enteron may dilate similar to a stovepipe. Another example is the distention of the peritoneum in hernia, uterine gestation, ascites, colon distention in obstruction. As to the fixation apparatus of the uterus—suspension, support or intra-abdominal pressure. Numerous subjects must be borne in mind for a rational philosophy of sacro-pubic hernia and repair. As to the weight of the uterus, disregarding the gestating and puerperal, I think we may omit it as non-important. We must distinctly consider the uterus as suspended by organic connections, as supported by a number of indulging structures as fixed by intra-abdominal pressure. It is curious, yes, unaccountable, how various writers dignify, in various views, certain factors into dominating supports of the uterus. As a student of practical visceral anatomy for a score of years, and as a practical gynecologist

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for the same two decades, I wish here to express some practical views as to the uterine supports and their rational application. I shall consider the subjects according to the following table:

This table presents at a single comprehensive view the fixation apparatus of the uterus. The uterus is: I, suspended; II, supported; III, fixed.

FIXATION APPARATUS OF THE UTERUS.

I. SUSPENSION OF UTERUS
- 1. *Peritoneum.*
- 2. *Ligaments.*
  - (a) Ligamentum rotunda.
  - (b) Ligamentum sacro-uterina.
  - (c) Ligamentum latum.
  - (d) Ligamentum cardinale (Kock's).
  - (e) Ligamentum transversum (Mackenrodt).
  - (f) Ligimentum pubo-vesico-uterina (Hyrtl).
- 3. *Vessels and nerves.*
- 4. *Connective and elastic tissue.*
- 5. *Connection of uterus to adjacent organs.*

II. SUPPORT OF UTERUS
- 6. *Diaphragma pelvis rectale (rectal group sphincter rectalis):*
  - (g) Levator ani.
  - (h) Coccygeus.
  - (i) Pyraformis.
  - (j) Sphincter ani externus (each with its proximal and distal fascia).

  Hiatus rectalis.
- 7. *Diaphragma pelvis urogenitale or Ligamentum urogenitale (pudental group—sphincter urogenitale).*
  - (k) Sphincter vaginæ.
  - (l) Erector clitoridis.
  - (m) Transversus perinei profundus.
  - (n) Transversum perinei superficialis ligamentum.

  Hiatus urogenitalis.

III. FIXATION OF UTERUS
- 8. *Intra-abdominal pressure* accentuates the normal position of the viscera.

We will discuss first the suspension of the uterus.

I. UTERINE SUSPENSION.

I think the majority of writers consider the suspension of the uterus its chief support. As a student of anatomy and gynecology, I wish to deny this emphatically, and to place the maximum support of the uterus on the pelvic floor. The view that the uterus is supported mainly by the combined pelvic floor discards, as an irrational operation, abdominal hysteropexy. In general, visceropexy is irrational, as it substitutes one pathologic state (excessive mobility) for another (visceral fixation). For the retention or maintenance of the uterus in its normal position, we must view the mechanical and architectural structure of the pelvic floor. That the pelvic floor supports the uterus can not be too frequently reiterated. The general structure from which the uterus is suspended are: (a), peritoneum; (b), ligaments; (c), vessels and nerves; (d), connective tissue; (e), connections with adjacent organs.

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(A) THE PERITONEUM.

The majority of authors attribute an extensive rôle to the peritoneum in the suspension of the uterus. Practically, the peritoneum applies, insists itself on the corpus and fundus only of the uterus, not on the cervix. The peritoneum is elastic, and to a certain degree counterbalances the intra-abdominal pressure. In 1887 Walcher denominated the peritoneum as a "peritoneal diaphragm," indicating that the peritoneum acts as a marked support of the uterus. I mean by the peritoneum the thin layer of endothelial cells, not the subperitoneal tissue. If the peritoneum should fix the uterus, it would be required that it should be firmly fixed to the pelvic brim; however, we know it is not firmly, but loosely, fixed to the pelvic brim; hence, can be but a moderate support to the uterus. The peritoneum can suspend the uterus only to a limited degree, and that for a short time only, as it distends, elongates, yields. The insufficiency of the peritoneum as a uterine support is evident, for, in abdominal distention, the peritoneum easily shifts and experiences new locations, yielding the original ones and assuming new ones with facility. The peritoneum maintains visceral relations in orderly plans for function (motion, nerve and vascular supply) as partitions in a home, as the intersections in netting, as the equalizers on a threshing machine, as the governor on an engine; however, as a uterine support, the peritoneum is meager, insufficient, unstable, distensible, yielding. On account of its distensibility, yielding character, it is irrational to employ it as a uterine support.

(B) LIGAMENTS.

The majority of authors attribute to the so-called ligamenti uteri a maximum rôle in uterine support. A noted exception to this view is the Russian anatomist Lasshoft. The primary structures usually included in the uterine ligaments are (1), ligamenta lata; (2), ligamenta rotunda; (3), ligamenta sacro-uterina. The secondary structures involved are: (4), ligamenta pubo-vesico-uterina (Hyrtl 1811-1894); (5), ligamentum cardinale (Kock's, 1880); (6), ligamentum transversum coli (Mackenrodt, the Berlin gynecologist). The majority of authors view the uterine ligaments as independent anatomic structures, and, as such, represent suspension agents for the uterus. The minority of authors view the uterine ligaments as reinforcements of the peritoneal diaphragm, which serve principally as uterine supports or fixation apparatus. Practically limited signification should be attributed to uterine ligaments, whether they be independent anatomic structures or so-called reinforcers of the peritoneum diaphragm.

From the uterus radiate muscle strands in many directions, and, in fact, the uterus is not sharply bordered from adjacent structures, as its gross anatomy would indicate. The so-called uterine ligaments belong to the uterus, not the peritoneum. The ligamenta rotunda uteri belong

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exclusively to the uterus as to blood and nerves—innervation and nourishment. They hypertrophy with advancing gestation and belong to uterine peristalsis.

Ziegenspeck claims that the ligamentum uteri contract with the contracting uterus and hypertrophy with the progressive gestating uterus. Hence, the so-called uterine ligaments functionate with the uterus in peristalsis and hypertrophy during gestation. The ligamentous apparatus of the uterus is best studied during parturition from complete gestation, when its hypertrophy is at a maximum. During parturition it doubtless aids the uterus to retain its relation to adjacent viscera holotopically. It may be noted here that different authors have attributed different views—maximum and minimum fixation capacity—to each individual ligament. However, in my opinion, among all errors of the uterine ligaments, no one has resulted in such unnecessary and harmful surgery as the erroneous views that the round ligament is a uterine support. Nearly twenty years ago I studied the anatomy of the round ligaments of the uterus, and was then convinced that the employment of the round ligaments for uterine supports was marked for oblivion.

COUGHS OF EXTRA-PULMONARY ORIGIN.*

By Oscar F. Baerens, M. D.,
Professor Diseases of the Throat, Nose and Ear in St. Louis College of Physicians and Surgeons, St. Louis, Mo.

Cough as a symptom is of such frequent occurrence, and is diagnostic of so many varied conditions, that its study is both necessary as well as interesting to the student physician. The majority of coughs are due to causes outside the lungs; in fact, ninety per cent of all coughs are extra-thoracic in character.

Probably the direct cause of cough is irritation of fibres of the pneumogastric nerve. This nerve, in many respects, is the most wonderful telegraphic line in our physical make-up. It, of all the cranial nerves, has the most devious course and the largest anastomosis. It has its origin in the medulla oblongata, and is distributed to both voluntary and involuntary muscles, and forms the principal line of communication between the brain and the various viscera contained within the thorax and abdomen. We trace its branches through the respiratory tract and we touch upon them in the ear as well. Its stimulus may manifest itself as hunger, as thirst, or as nausea. Nor is this all. Clinical observation has taught us that any direct stimulus to it or its communicational branches may excite cough. Hence, the statement of the fact that almost any organ within the body may be responsible for the symptom designated

*Read at the Meeting of the Tri-State Medical Society (Missouri, Illinois and Iowa) at Moberly, Mo.

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as cough. Cough has for its object, primarily, the expulsion of some pathologic product of disease, which, if permitted to lodge undisturbed, say, in the lung, would ultimately lead to dyspnea and asphyxia. Here we see the wise provision of Nature in sounding the alarm and facilitating the removal of objectionable matter from the lung tissue. For all clinical purposes we may divide the genesis of coughs into two classes, namely, intra- and extra-thoracic coughs, and inasmuch as the larger percentage of coughs are of the latter variety, I shall consider in this paper some of the varieties met with daily. All coughs depend upon some source of irritation for their existence, and are either useful and protective or useless and irritative. As an example, the coughs of pneumonia or bronchitis belong to the useful variety, and the coughs of pertussis, pleurisy and asthma, cardiac irregularities and the like, are the useless irritative kinds. The former should be encouraged, the latter should be brought under control as speedily as possible. Extra pulmonary coughs must be suspected when a thorough examination of the lungs proves negative—though auscultation and percussion by trained fingers and ears fail very often to reveal intra-thoracic lesions. The character of the cough is usually our best guide in determining the underlying causative factor thereof. We know and speak of various kinds of cough, such as dry, moist, nervous, paroxysmal, hacking, rasping, spasmodic, irritating, persistent, recurrent, intermittent, short, whistling, whooping, barking and the like, and these various characteristics should serve as an index to their etiology.

In the minds of the laity, all coughs are indicative of pulmonary trouble, and to many of them it invariably suggests tuberculosis. To the observing and learned medical mind it is a symptom of interest always, and to him it is the alarm signal sounded by Nature, and means trouble somewhere along the line traversed by the pneumogastric. After satisfying ourselves that the cough is of extra-thoracic origin, we must direct our search to other regions than the lung for its cause. In my own experience the oro- and laryngo-pharynx have been responsible for the greater amount of extra-thoracic coughs. Perhaps the commonest variety met with is that due to an elongated uvula, which may be hypertrophied and sufficiently long to irritate mechanically by its size the tussogenic zones in the immediate locality. The most severe paroxysms come on when the patient bends his head far forward, or when he assumes the recumbent position. After awhile there will develop a hyperesthetic condition, which will become so great as to cause serious interference with sleep, loss of appetite, even nausea and vomiting, resulting in emaciation and a general depression, which the physician, who sees the patient in this physical state, will most likely mistake for a phthisical condition. Hypertrophied tonsils are responsible for quite a few cases. All enlarged tonsils will not produce cough, but the kind in which the bases of the tonsils are broad

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and which extend downwards and backwards, and in those cases in which adhesions exist between the glands and faucial pillars, will usually furnish their quota of coughers. Often we find cholesteatoma of the tonsils and cretaceous matters deposited in the follicles and crypts of the glands which will excite paroxysm of cough, and it is therefore of some importance to thoroughly explore these regions before concluding our examination of the throat. The lingual tonsil, situated at the base of the tongue, occupies a position favorable to the causation of cough, especially when this lymphoid tissue is hypertrophied. By reason of its situation it is often overlooked by the casual observer. The cough, in cases of this sort, is frequent, hard and rasping in character, and usually unaccompanied by expectorate. Posterior lateral hypertrophy is noted as a causative factor in the production of cough, though more infrequently met with. Pharyngo-mycosis will produce cough and is likewise comparatively rare. Varicose veins traversing the walls of the pharynx and ramifying through the lymphoid tissue at the base of the tongue must be included among the causative factors. In the naso-pharynx we find adenoids as the common offenders. I need not do more than mention them, so common is the condition, and every doctor is or should be familiar with the characteristic facies and symptoms produced by their presence.

In atrophic naso-pharyngitis and rhinitis the dried scales of mucus produce cough of a very irritating nature, though it is more of a hawking than it is a cough, and is usually most prominent in the morning, because of the accumulation and drying of the mucus over night. The nose is responsible for a host of troubles, and cough is one of them. Here we find various forms of pathological conditions, such as hypertrophic, atrophic, simple chronic intumescent and hyperesthetic rhinitis, septal spurs, ridges, exostoses, enlarged and cystic turbinals, polypi and irritative areas, all of which will cause cough, varied in variety and intensity as well as persistency. Going down further along the respiratory tract we look to the larynx intuitively almost, for it is the general impression that this organ has for its most prominent symptom, cough. Yet experience of laryngologists has proven this to be an erroneous impression. While it is true that cough does occur at times, it is not a constant nor a prominent symptom of laryngeal troubles. Just as there are sensitive areas within the nose, so are there sensitive areas within the larynx, which will respond to irritating stimuli, such as gases and dust, and produce cough. These areas are found in the inter-arytenoid commissure and over the ary-epiglottic and the glosso-epiglottic folds. Those of us who are engaged in aural work often note that patients will cough when the speculum is introduced into the auditory canal. This cough is short and of a hacking nature, and sometimes persists until the speculum is withdrawn. Pressure upon the auditory branch of the pneumogastric nerve produces the cough in these cases. It sometimes happens that when the

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eustachian catheter is introduced into the tube, that cough is produced by the pressure against the walls of the eustachian tube, which would lead one to suspect that there are hyperesthetic areas met with in this locality.

Among the other remote causes of extra-thoracic cough we must not overlook hepatic, gastric and uterine disturbances, cardiac aneurism, tobacco heart, edema of the glottis, benign and malignant growths of the larynx, foreign bodies and ulcers.

Even in the skin we are told that tussogenic zones exists. These are situated on the anterior surface of the neck following the course of the distribution of the pneumogastric. In these cases of cutaneous cough the paroxysm is induced by playing a jet of cold air over the region, and is often produced by the contact of cold bedclothing with the warm epidermis.

From the foregoing it will be readily seen that the proper treatment of cough will depend largely upon the early recognition of the underlying cause, and the removal of the cause, if it be possible to do so. This is by no means an easy matter, and many cases of extra-thoracic cough will, by their persistency and severity, deceive both the physician and the patient, and lead them to believe that there exists a serious pulmonary affection. It is hoped that the possible causes of extra-thoracic cough enumerated here will be of some benefit to those of you who have given me your earnest attention, for which I thank you.

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THE TOXIC EFFECTS OF QUINOSOL, CRESOL AND LYSOL.

Th. Weyl has studied the toxic effects of these three substances upon rabbits, and publishes the results of his investigations in the *Vierteljahresschrift f. Gerichtliche Medicin.* He finds that in the stomach of the rabbit, lysol and cresol are equally poisonous, but when administered hypodermically, quinosol is more poisonous than lysol, while cresol is less poisonous than either of the other two. Injected into the peritoneum, quinosol has a far less toxic effect than lysol or cresol.

Expressed in numbers, the minimum lethal doses were as follows: Introduced into the stomach, cresol is 163% more poisonous than lysol, and 135% more poisonous than quinosol.

When hypodermically injected, cresol is found to be 136% less poisonous than lysol, and 371% less poisonous than quinosol.

The results of the inter-peritoneal injections show that cresol has the same toxic value as quinosol and is 51.5% less poisonous than lysol.

In view of the large number of cases of lysol poisoning that have occurred in Germany within the past year, and the consequent restrictions placed upon its sale by the government, the investigator urges that the sale of quinosol, whose poisonous properties are equal to those of lysol. if not greater, be likewise regulated.—*Pharm. Zentralh.*

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EPIDEMIC INFLUENZA.*

By A. C. F. Halford, M. D., Brisbane (Q.).

A widespread and serious epidemic of influenza has been raging in Brisbane during the last three months, the first cases occurring at Clayfield about the first week in June. From what I can hear it spread rapidly through the State, breaking out almost simultaneously in many distant places.

There has been such a high degree of morbidity due to it, with dislocation of business and social functions, and not a few lives lost, that one commends the suggestion which has been made to this branch, that the matter be made a subject of discussion tonight.

Gratified as I am for the opportunity to open this discussion, I must ask you to take the usual apologies as read in order that I may lay before you, without unnecessary delay, the few ideas I have on the subject. I only hope I will be sufficiently dogmatic to excite discussion, for it must be confessed that there is a want of accurate knowledge about many features of epidemic influenza. Our differences of opinion are more likely to be concerned with details of treatment, and opinions about the etiology and prevention of the disease, and on these points I must look to the gentlemen who are to follow me in the discussion for enlightenment.

Incidence.—In the majority of my cases men were affected and, as a rule, suffered severely. With very few exceptions, all members of a household suffered from it, the victims going down simultaneously or very soon after one another. The disease varied very much in severity and type. In most instances the onset was sudden. Headaches were very severe, and so were the pains in back and legs. Temperatures varied greatly, but, as a rule, the higher the temperature the greater discomfort from pains and aches. Some suffered from what appeared to be simply feverish colds, some had typical attacks of respiratory type, others had severe pains, high temperature, no catarrhal symptoms and resembled dengue. Rashes were infrequent. Complications were common and consisted mostly of pneumonia, pleurisy, otitis media (in adults as well as children) affecting both ears, intercostal neuralgia, brachial neuralgia, synovitis, and jaundice. There was in some cases a remarkable tendency to reproduce affections to which patients were liable, and for the affection to fly to weak spots. In two persons who had suffered from rheumatic fever the disease was ushered in with pains and swellings of joints. Children who had had whooping-cough and were better from it, began to get the characteristic cough when influenza was contracted. Most of these cases developed broncho-pneumonia as a complication, and

*The Australasian Medical Gazette.

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two young infants died. The pneumonic cases varied from a mild, patchy broncho-pneumonia with few physical signs to basal lobar pneumonia. The latter, as a rule, was accompanied by high evening temperatures with marked morning remissions. Rusty sputum was never seen; occasionally there were streaks of blood.

In the present epidemic in my experience there has been the unusual feature of children being readily attacked. In families where the disease was introduced, hardly one child escaped. The commonest form among them was the gastric and broncho-pneumonic. A considerable number had otitis media, requiring puncture of the tympanic membrane. Cervical adenitis is generally present in children, especially if otitis media supervenes. One case was characterized by suppurative adenitis pure and simple, requiring operation.

In three cases the disease was ushered in by convulsions. One adult was seized with a violent rigor coming home in a tram, which lasted half an hour. The temperature ran up to 105° F., but within an hour fell by crisis, with most profuse perspiration. He was quite well next morning, having no catarrhal or other symptoms.

Gastric influenza I regard as the most interesting form from the point of view of pathology. It is so entirely different from the respiratory form that one is at a loss to understand how such diverse symptoms could be produced by the same cause. I think there is good reason to believe that the gastric symptoms may be a manifestation of neural poisoning, and that they are not always dependent on a catarrhal state. It is well known that vasomotor paralysis is a common result of influenza intoxication. The severe headache, excruciating pain of body and limbs, vomiting and diarrhea, although dissimilar as symptoms, may all depend on a common effect of the poison in causing vasomotor paralysis of organs corresponding to the disturbance noted. As a rule, there are no morbid changes observable *post-mortem* in the stomach and intestines, for instance, comparable to lesions of the respiratory system, except possibly in those cases where jaundice, hematemesis and malæna are observable. This observation lends strong support to the theory of a vasomotor paralysis caused by the toxin of the disease. In fact, this form of influenza coming on, the headache and vomiting invariably suggests a bilious attack to the patient, and more especially in the case of children are the parents deceived. In some instances the gastric symptoms were ushered in with such appalling suddenness that ptomaine poisoning was suggested. The absence of other cases that day, and the subsequent progress of the disease through the household, dispelled the notion of ptomaines being the cause of the illness. A fairly common and painful complication of influenza in the epidemic under notice is severe neuritis. I have seen about a dozen cases of intercostal neuralgia, and in seventy-five per cent of those cases the ninth or tenth dorsal nerve on the left side has been affected. A

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few cases occurred on the right side, and always in the lower part of the chest. It sometimes came early in the disease and sometimes did not appear until convalescence was established. Often it was the only symptom complained of. Sometimes these cases simulated pleurisy very closely. I have records of three cases of brachial neuralgia which, generally an obstinate complaint, was relieved and cured by a draught containing Dover's powder, salicylate of soda, and liquid ammonia acetatis.

I do not think it necessary to say much about diagnosis, as in epidemic form influenza is not difficult to recognize. The thing to bear in mind is that we should not make the mistake of jumping to the conclusion that all cases are necessarily suffering from this cause. It is common at times of epidemics to receive messages that are said to be urgent. One I got a little while ago was of this nature, and as no particulars were available from the messenger, except that the patient was seized with bad pains rather suddenly, I took the case in its order and found I had to deal with a ruptured tubal gestation.

Epidemiology.—Referring to the historical part of this subject, it occurs to me that it would be interesting to consider the effect of modern means of inter-communication between various countries of the world on the spread of diseases of bacterial origin. We read that influenza, for instance, has been known since the twelfth century at least, and in the "thirties" and "forties" of last century fairly severe epidemics occurred in England and the Continent. But it was not until 1889 and 1890, when railway communication had developed into some magnitude, and over-sea steamers were running to time-tables, that a pandemic occurred. Since then it may be safely assumed that influenza has been consistently going round and round the globe in the track of the commercial traveler and tourist, and now and again exacerbations occur which are serious enough to command the attention of the cablegraphist. Several features of this specific disease are conducive to its rapid spread. The incubation period is the shortest of any disease of its class; susceptibility to the disease is always existent, as the immunity conferred by one attack is very fleeting. The victim is often as not able to go about his business and thus spread the disease. The respiratory tract is in most instances the seat of the disease, and by coughing and expectorating we have the most potent means by which the disease is transmitted from one individual to another. At the same time rooms, offices, railway carriages, tramcars, etc., become readily infected. That infection spreads in this way is emphasized by the fact that in most instances the disease is introduced into a household by some member of the family engaged in outdoor occupation, or employed in business houses, factories, or schools. At the same time, too, much stress must not be laid on these indirect and impersonal methods of infection. The personal factor in influenza, as in all other infectious diseases, is the important one. Fomites and furniture,

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drainage and dust are not potent means of spreading disease unless there is evidence of actual contamination. Pocket-handkerchiefs and pinafores in children no doubt will convey the contagia of influenza, measles, scarlatina and diphtheria, and the same may be said of bed-linen and underclothing in small-pox. I can not see, however, that articles of furniture or clothing that have not been grossly contaminated with the virus of a disease are likely to spread infection. The infectivity of dust is very much over-estimated also, in my opinion, for the simple reason that the contagia of all the diseases of this class are essentially parasitic, and though the organisms manage to survive in dust for a few days or a few weeks, the acquisition of a saprophytic state must largely sacrifice their parasitic activity. For the same reason I regard air-borne infection as only a bogey. The best object-lesson we have is to be found in plague. For years the exertions of medical officers were misdirected, and tons of expensive disinfectants were wasted, until the observation of Simond on the rat-flea relationship to the spread of plague was published, and the personal or biological factor received due attention.

The object of these remarks is simply to emphasize the necessity of isolating the patient when dealing with influenza, and thus minimize the danger arising from the activity of an ambulatory respiratory volcano.

No study of epidemiology is likely to be conclusive in sheeting home the true cause of infection spreading from place to place unless due weight is given to the fact that patients may be infective long after convalescence has been fully established. Herein lies the commonest source of fallacy—that is, overlooking the personal and searching for impersonal factors. It is now an established fact that the virus of several important diseases may exist for a long time, unsuspectedly, in patients long since regarded as free from infection. For examples, I need only mention the influenza bacillus being found in the respiratory passages, diphtheria bacillus in the faucial discharges, scarlatina virus in nose and ear discharges, B. entericæ in urine and stools. Too often we are chasing the saprophyte while the parasite is busy.

Bacteriologically, the chief interest in the disease lies—first, in the fact that the bacillus is not able to survive long outside its host; secondly, there is no doubt that the symptoms simulating true influenza may be set up by organisms other than that described by Pfeiffer. This observation will account for the fact that some people have suffered from merely a feverish cold with marked catarrhal symptoms affecting chiefly the nasopharynx, a low degree of pyrexia, and little or no constitutional disturbance. Such persons have nevertheless been subsequently struck down with true influenza, marked by bronchitis, pains in body and limbs of great severity, and high fever. This attack is often described as a relapse. I have notes of several cases where an ordinary influenza attack chiefly affecting the respiratory passages has been recovered from, and two or

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three weeks later the patient has suffered from a typical gastric seizure. Lastly, it is a very important fact to bear in mind that the bacillus may exist a very long time in the respiratory passages of persons recovered from the disease.

Here, then, is conflicting evidence, for surely it is admitted that true influenza is a very variable disease, and yet it is not altogether likely that these epidemic visitations are always mixed or distinguishable concurrent entities. We want more information on the subject badly.

Mortality.—The mortality of the disease, *per se,* is low, and is estimated at one in two thousand. But the deaths due indirectly to influenza amount to three times the above rate. Parkes and Kenwood say that, taking into account "the mortality indirectly due to influenza and . . . the excess of deaths from pneumonia, bronchitis and heart disease, the death rate from this disease and its after consequences is not far short of two per one thousand, nearly equal to the total zymotic death rate now recorded in many large towns." This statement is more easily realized when we remember that about fifty per cent of the deaths from influenza are of persons aged sixty years and upwards. This contingent death rate is so serious, therefore, that as a deadly terminal infection it should receive more attention from students of preventive medicine and health authorities generally.

I have had no deaths from the disease itself, but it has been a terminal infection in the following instances: Man, aged seventy-nine, suffering from advanced heart disease; man, aged forty-four, suffering from chronic bronchitis and brochiectasis; two infants suffering from whooping-cough.

Prophylaxis is a difficult problem. In the first place, cases are often overlooked in the early stages of the disease, although infectivity is manifested from the establishment of the catarrhal symptoms. Mild cases also readily spread the disease. At the same time the disease can undoubtedly be checked by isolation. The bacillus can exist but quite a short time in the dried state. Hence, we have an indication how best to prevent infection spreading. As the disease almost invariably is spread from person to person, and as it is a malady which confinement in bed is almost an absolute necessity for successful treatment and for obviating complications, physicians should insist on patients remaining in bed until convalescence is thoroughly established, for the mutual benefit of the sick and healthy.

As the incidence of the disease in this visitation has been severe on children, and in view of the fact that they often suffer from it in its severest forms, with dangerous complications not uncommon, it might be advisable to recommend closure of schools. Any persons attending theaters or churches with coughs should be encouraged to leave by their immediate neighbors, and children should be sent home from school if they have coughs while the epidemic is present. Further, some straight

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talk about expectorating in public places is necessary, if we are to mitigate the misery this malady can inflict on the community.

Treatment.—For obvious reasons, and on account of what has already been said, the patient should be advised to go to bed and stay there. I think it is also desirable to state plainly to the patient our reasons for this. It is more likely that the advice will be followed if we do so. I generally advise that no nourishment be given under ordinary circumstances until there is a distinct desire for it. In gastric cases my patients have been ordered to fast for several days. Clifford Allbutt recommends, in the *Lancet* of May 13, 1905, what he calls a non-toxic dietary (excluding meat) during the long convalescence, but I confess I do not understand the rationale of it. With regard to therapeutics, I always precede drugs by one or two cold packs when there is high fever, with beneficial results, especially in children. Most writers condemn the general use of antipyretics in this disease, from their depressing effect. For myself, I never hesitate to use them, but always in small doses, which are directed to be taken every one, two, three or four hours, according to circumstances, until relief is got, or until four doses have been taken. There is no way to give relief so quickly as by the use of phenacetin or phenazone combined with citrate of caffein, sal. volatile, and spirits of chloroform. Occasionally I prefer to use the time-honored Dover's powder, especially where the pains are neuralgic and the fever not high. Sometimes a diaphoretic mixture is sufficient, but it is not so if there is much pain, as is so frequently the case. I use such to fill the gaps in the treatment by the coal-tar derivatives. Aspirin I find of great value in the high temperatures that accompany pneumonic complications. Bromides are sometimes essential to relieve nervous irritability and depression with the sleeplessness that accompanies these states. During convalescence I give cinchona, nux vomica and hydrochloric acid, but, after all, time is the great healer.

ACETYL-SALICYLIC ACID IN INTRACTABLE VOMITING.

Dr. W. M. Crofton, in *La Semaine Médicale,* reports very favorably on the action of acetyl-salicylic acid in intractable vomiting in pregnancy, even where all other remedies have failed. This remedy is also useful in similar cases of tuberculous peritonitis. The Doctor recommends that five to ten grains of acetyl-salicylic acid be administered just before meals. The beneficial action of the new remedy is immediately observed; in some cases the vomiting ceases after the first administration of the powder, in others after several repasts with the specified dose of this remedy.

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APPENDICITIS—A QUERY.

By C. H. Newth, M. D., Philomath, Oregon.

[Written for the Medical Brief.]

What is the cause of so many deaths after operation for appendicitis, in doctors? The *American Medical Association Journal* publishes each week, as far as known, every death of doctors in the United States, also the cause of death, if possible.

During the year 1906 there was recorded two thousand one hundred and fifty deaths. But of these only one thousand three hundred and ninety-eight gave the cause of death. Of this number one died of appendicitis, and twenty-six, just two per cent, died "after operation for appendicitis." Now, it is not conceivable that of all deaths in adults, or adult males, two per cent of deaths are after operation for appendicitis. What, then, is the cause of this awful mortality? It would be very interesting to know how many of these would have died if they had not been operated on. It would also be interesting to know how many got well after operation. It was not, in many cases, that they died because the operations were not competent. That bright young man, Dr. Pilcher, of New York, who was taken down with the disease while away from home attending the Boston meeting of the A. M. A., was operated on as soon as the most eminent surgeons considered it best, and by the best operators in the country, yet he helped to make the number. Statistics do not show as large a mortality. Why is it?

I think these figures at least show that there are a large number operated on that would better wait a few days. If doctors would only get the idea out of their heads that if a person has appendicitis, the only thing to do is to sit down and watch the case for twenty-four hours, and then operate if the patient is not moribund, there would be fewer deaths from operation. We are beginning to realize that appendicitis is often a medical, and not surgical, disease.

There is no doubt but that the proper thing to do first in a case of appendicitis is to thoroughly clean out the bowels. Epsom salts or castor oil is the best for this purpose, unless there is vomiting, and everything is rejected by the stomach; then small doses of calomel, every half hour until the stomach is quiet, will be better. In twenty-four hours, if, by using hot applications and counter-irritants, there is improvement, and the fever is reduced, or gone, it is safe to operate, but generally not necessary. If, however, the pain and fever has not abated, and the look of distress is worse, an operation will often be needed, but is not now safe. The best counter-irritants are chloroform first, then follow with turpentine stupes; iodine on hot, wet cloths, wrung out of vinegar and salt, or simple hot water, or water medicated with epsom salts or boric acid. These cloths

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should be kept hot, not by removing and wetting again, but by applying very hot plates upside down, over the cloths, and changing as often as necessary without moving the cloths. The wet application should be constantly kept hot enough to feel uncomfortable to the patient. Some authorities recommend ice, but I think there is no doubt but that sometimes ice does damage; makes the case worse, and is never as beneficial as heat, if applied thoroughly. After a busy practice of over fifteen years, without a death from appendicitis, I have become imbued with the idea that an operation is not *always* absolutely necessary to save life. None of my cases have been operated on, yet all are now alive with one exception, who died five years after her attack, with no symptoms of her original disease. Also two cases that I am now treating. There has also been but two recurrences. Now I do not mean to imply that none of these cases needed operation; several of them needed it bad, and would have been operated on if it had been possible; but in all the cases it was impossible, either on account of circumstances or opposition on the part of relatives. One case especially, I remember, that was brought sixty miles over the mountains from the sea coast before he was seen by a doctor, and after a week there was indefinite symptoms of abscess, and arrangements were made to operate next day. But early next morning the father came in, three miles from the country, and said the boy was well, and was up and around with nothing the matter. He was cautioned of the danger, but insisted that the boy needed a doctor no longer. But in another week I was called, and found a large abscess, with temperature of 104° F. I prepared the boy for operation, but was too late, for the boy passed over a pint of pus, and the tumor went down, and the boy got well, and stayed well. This does not show that it is best to wait for the abscess to break, but it does show that it is not always death to wait. We read every day of experiences similar to these, and, really, every death I know of in the practice of other physicians comes in one of three classes: Either they died before help reached them, or they were operated on, or they were moved a long distance. We all know that a man has a better chance of recovery with intelligent treatment and absolute quiet than he has with an operation at the end of a long and jolting journey.

Summary—Ninety per cent would recover without abscess if treated by thorough cleaning out of the bowels, followed by several days' fast and hot applications. Ninety per cent of abscess cases would break into the bowel, if treated as above, with prolonged fast and absolute quiet. *But* every case showing symptoms of abscess or perforation should have the benefit of operation at the proper time. Yet, even then, simply opening the abscess, as was done in the case of King Edward, of England, is sufficient, and is better and safer than a more extended operation.

Now, one suggestion, and I have done: This is written by a country physician with a practice amongst country people, and not amongst people

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broken down by unhealthy surroundings, debilitated by whisky and venereal disease.

I spent several months in post-graduate work recently in New York and London, and it is a fact that almost every patient had venereal disease at some period of their lives, while at home not one case in five hundred has ever had syphilis. Some people think that catarrhal appendicitis can never be recovered from without an operation, but I do not see why it should not, as well as catarrhal jaundice, or catarrh of the bile ducts. In my experience it has always got well with proper medication.

THE ABORTION AND MODIFICATION OF CROUPOUS PNEUMONIA.

By Robert C. Kenner, A. M., M. D., Louisville, Ky.

[Written for the Medical Brief.]

Consultation of the leading works on the practice of medicine will reveal the fact that most of the authors regard croupous pneumonia as a self-limited disease.

Regarding self-limited diseases, I may say the term is very vague. It conveys the idea that no treatment can be instituted that will modify the disease process, and that it must necessarily follow its course. Such an assumption is rarely true. Of course, many morbid processes require such therapeutic intervention as is not yet "dreamed of in our philosophy," but it is indisputable that many affections not capable of cure may be so modified as to permit of the recovery of the patient. This is capable of demonstration in diseases attended with pain and other severe manifestations, which are within the sphere of our therapeutic capabilities.

Croupous pneumonia is a disease which has been considered by many as a self-limited disease. The late Prof. Austin Flint—one of the greatest clinicians which America has produced—expressed his belief, in one of the editions of his work on practice, that pneumonia might be aborted. Other good observers hold this opinion. A clinical study of croupous pneumonia, extending over twenty-five years, has convinced me that the affection is capable of abortion or favorable modification, if seen early. If seen early I believe the disease can be brought to a quietus in twenty to thirty hours. Seen after the process has gone farther, we may often modify the affection.

Let me define the terms here used. If called to a patient who lately has been seized with a chill, who has pain in the side, with or without cough, and a fever of 103° F., coupled with rapid breathing and a history such as would lead one to expect pneumonia, I believe it is quite possible to abort the disease. Of course, I desire to be clearly understood that the physician's visit must be made and the treatment must be brought to bear within two hours from the initial chill. Seen after that time and before ten hours shall have elapsed since the initial chill, it is, I think,

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often within our power to favorably modify the pneumonia process. By this I mean that the clinical picture of croupous pneumonia may be so changed that the process will be of short duration, lasting four or five days often, and being essentially mild.

My experience has confirmed these beliefs, and I have studied my cases with the greatest care, in order that I might eliminate erroneous conclusions. I have drawn my conclusions, too, from a study of an extended number of cases, and therefore feel that my convictions are founded upon correct deductions.

As for the means employed to abort or modify pneumonia, I give, with but slight modification, the following treatment: Children, very old or debilitated patents, will, of course, require smaller dosage. Of course, the judgment of the physician who studies the case in hand will lead him at once to a correct comprehension of the limitations and the modifications of the treatment, if such are deemed necessary.

Immediately after examination of my patient, and I am convinced that pneumonia is developing, I give an hypodermic injection of one-fourth of a grain of sulphate of morphine. In ten minutes I administer thirty grains of sulphate of quinine by the mouth. I have the patient assume the recumbent position and remain as completely quiescent as possible. In eight hours, if the patient has any elevation of temperature, or if physical examination indicates any signs of the disease, I repeat the quinine, giving same dosage.

The same means are employed to modify the pneumonia process. Of course, when the second dose is given and there is yet evidence of the disease after a lapse of another eight hours, we may assume failure to abort the affection; but if the treatment was instituted early enough we shall find in most cases the process has been modified and that the disease has been rendered essentially mild. Then its treatment is to be conducted on customary lines.

The administration of morphine prior to the exhibition of the quinine generally insures quiet, and no vomiting occurs. Still, unfortunately, this sometimes happens. In such an exigency it is best to give another full dose of quinine and to apply a mustard plaster to the epigastrium. It is unwise to allow these patients to imbibe any fluids for four or six hours after the abortive treatment has been instituted. Patients, as already observed, should be required to keep quiet, and should not talk or make any but the most necessary movements.

The after-treatment of these cases should be, in my opinion, conducted on the principle that the general system is below par. In attaining this end, malt extracts and cod-liver oil; the oil, plain or in emulsion, is inferior, in my opinion, to the palatable preparations which are composed of the extracts from cod-livers and wines. These are not only meritorious, but they are readily taken by patients.

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ALOIN.

By James Burke, M. D., Manitowoc, Wis.

[Written for the Medical Brief.]

Aloin is derived from aloe spicata, aloe socotrina and aloe vulgaris. The dried juice of the leaves is the preparation in most general use. The dried preparation consists of aloin, aloetin and aloetic acid, all cathartic; there is also found a small proportion of gallic acid, fat and albumin.

Aloin occurs in small, colorless crystals, of a sweetish-bitter taste. It is but a small component part of the crude drug. Only in solution are the crystals active in the stomach and bowels in neutralizing cognate proteid substances which lack a step in morphology to become finished excretory products. The proper finishing touch makes them a normal stimulant to some excretory organ, and procures their prompt elimination. Especially is this the case in the stimulus given by such products to the lower colon and rectum. The therapeutic good to the adjacent pelvic organs springs from the neutralization of the colonic and rectal proteid toxins, and thus preventing their absorption by the tissues of the other pelvic organs.

The best therapeutic utility of aloin is obtained by oft-repeated small doses until the proper function of the colon and rectum is approaching the normal status for those organs, especially manifested in the conversion of the proteid waste into a normal stimulus for producing a daily evacuation of the bowels. A surplus of the drug beyond this point does damage to the lining and other secreting glands of the colon and rectum, by the aggressiveness with which the aloin—itself a proteid poison, not yet chemically satisfied—attacks the integrity of the secreting glands of the colon and rectum, to become a staple compound.

The proper concentration of a solution of aloin applied to the absorbing surface of a skin blister will seek and attain its exit in the colon and rectum. But to get the best results in a given patient, the toxins lodged in the upper alimentary tract must be neutralized by the proper use of the active principles of our pharmacopœial preparations of plant drugs. It is practicing the best economy to unload the bowels of their fermenting contents, and to restrict further fermentation by the liberal use of the triple sulphocarbolates before attempting to neutralize any intestinal toxins. The toxins in the lumen of the bowels are easily disposed of by the proper concentration of some saline laxative, repeated until the job is well done; then, only, can the proteid toxins lodged in the walls of the intestines be readily neutralized by the indicated use of chionanthin, leptandrin, juglandin, colocynthin, emetine, hydrastine, or iridin.

Intestinal antisepsis can be simmered down to the prevention of further fermentation of the bowel contents, and thereby dissipating

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gaseous distention, and allowing the bowels to assume their normal caliber, allowing a freer exchange of the blood and fluids into the secreting glands of the intestinal wall, and thus providing the output of a better quality and quantity of physiological ferments.

Abnormal digestive ferments, by their reversion of the food proteid into an abnormal variety of amino-acids, burdens the general cellular system, as well as the special cellular systems of the body, with the disposition of a foreign protein substance. Its presence, and the cellular effort to dispose of it, reacts on the construction and function of the various cells. This heterologous protein is potential for evil, in that if it combines temporarily with the pseudo or other incomplete affinity, it becomes a proteid toxin, and, coming in contact with a normally-working cell, by chemism, retards the cell's normal working, and the toxin is classed as a catalyst. If the catalysis is carried on to a degree that its own product reacts on it to still further retard autolysis, the process is autocatalysis.

OPERATIONS UPON THE LABIAL MUCOSA TO OVERCOME THE DOWN-TURNED ANGLES OF THE MOUTH.

By Chares C. Miller, 70 State Street, Chicago.

[Written for the Medical Brief.]

Down-turned angles of the mouth not only mar the beauty of the mouth, but gives to the appearance of the individual a melancholy expression which is particularly distasteful. Down-turned angles also add to the apparent age of the individual. There is a tendency for the angles of the mouth to droop with advancing years, and it is exceptional to meet with a man or woman past middle life who has a mouth the angles of which do not droop somewhat. Young women sometimes develop a down-turning of the angles of the mouth as a result of the misuse of the facial muscles, and the featural surgeon should ever be on the alert to warn such persons so that faulty habits of expression may be corrected by training of the muscles.

I have described a number of operations for correcting faults which mar the appearance of the lower portion of the face, and among these operations described are a number which are intended to evert and invert the lips where these parts are too thick or too thin. Where the surgeon desires to turn the angles of the mouth upward, he may take advantage of the mobility of the angles and, by properly performed operation, draw them upward and toward the median line. To do this successfully, a portion of the mucosa of the upper lip must be excised near the attachment of the lip to the gum. The excision of mucosa should be so situated and shaped that the surgeon may place sutures in

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the connective tissues overlying the gum and closely adherent to it, and these sutures should extend outward, so that when they are drawn upon the excised segment of mucosa is closed and the angle of the mouth is drawn upward and inward at the same time. Oftentimes the sutures which draw the angles upward and toward the median line will not per-

FIG. 1. — Illustrating triangular denudation above and the incision made below each angle and in the median line.

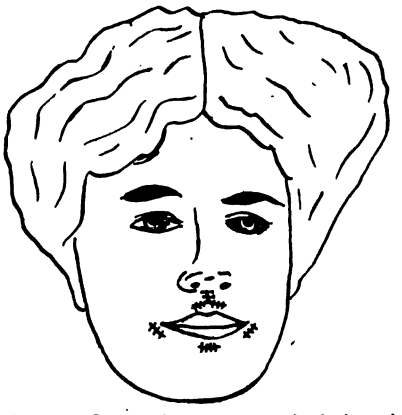

FIG. 2.—Illustrating manner of closing the denuded triangle and also the closure of the incisions made in the lower lip. The surgeon must keep in mind the need for carrying the median sutures above into the connective tissues overlying the gums so that a fixed point may be secured, toward which the angles are drawn.

fectly approximate the divided segment of mucosa, and in this case the deficiency should be closed by subsidiary sutures.

The most generally applicable form of excision will be triangular with the apex at the juncture of the upper lip, with the gum and the angles approaching the oral angles. It is hard to describe the manner of passing the fixation sutures which draw the angles toward the median line, but the illustrations will make clear the simplicity of the operation. The sutures, which pass from side to side, and which dip into the connective tissues overlying the gum, tend also to prevent undue projection of the lip in the median line. The operator should not fail to note any tendency of the labial mucosa to evert unduly, and such tendency should be overcome by the sutures which are passed at right angles to the free margin of the lips.

To favor upturning of the angles, an incision may be made just beneath each angle and at right angles to the free margin of the lip. These incisions should be closed in an opposite direction. An incision may also be made in the median line of the lower lip, and this may be closed so that the line of union lies parallel to the free margin of the lip. These incisions of the lower lip and their closure in a contrary direction tend to evert the lip, and should the lip be already quite full,

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they may be dispensed with, owing to their tendency to accentuate such fullness.

These operations may be performed painlessly after the lip has been infiltrated with a weak cocaine solution. Slight reactions only follow the operation, and healing is invariably rapid. The mouth should be carefully cleansed before the operation, and antiseptic mouth washes may be used to advantage until the stitches are removed. I find fairly heavy silk most convenient for suture material. The stitches are removed about the fifth day.

Featural surgery is destined to become an important specialty. Charlatans now monopolize the field, and the regular profession must in time recognize the evils of this monopolization. Those who desire featural imperfections improved will not be put off by the scoffing of the practitioner, and ultimately such patients will fall into the hands of careless and incompetent advertisers, if they are not properly cared for by ethical members of the profession.

THE INACCURACY OF ORDINARY PRESCRIPTION-FILLING.

By Carl Hinrichs, Ph. C.

[Written for the Medical Brief.]

Suppose the physician makes a correct diagnosis, and the prescription he writes fits precisely the case he has in hand; suppose, also, that it is filled skilfully and with the best and purest drugs. Suppose the proper dose is plainly indicated, and that the directions concerning the same are precisely followed by the patient. Will the sick person, under ordinary circumstances, have administered to him the exact amount of the drugs which it is the intention of the doctor that he should take?

Let us try to trace the medicine from the time it is prescribed until it is taken by the patient, and ascertain what will be the result.

A prescription, the ideal one, we will say, is written. It gives the names and quantities of the drugs which the doctor intends should be used, with the directions, say *"Take a teaspoonful every three hours."*

The first question that arises is, how much is a teaspoonful? Teaspoons are not all the same size, and, then, when is a spoon *full?* It may be *full, quite* full, or *even heaped;* for liquids can actually be heaped up in a vessel without overflowing, if they are carefully handled.

It can thus be seen that, in the act of taking the dose, which was so carefully thought out by the physician, an element of chance enters, and a quantity of the medicine, quite different from that which was in the doctor's mind, may be taken.

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But we have to consider other, and perhaps greater chances of equally serious modifications of the intended dose. After the physician has put down his rather indefinite directions, the prescription reaches the pharmacist. Let us say that he is a skilled and conscientious one, and tries to carry out the physician's instructions to the letter. Yet even such a one is not proof against mistakes, or against errors which may arise by reason of trade customs and habits. For instance, the prescription calls, we will say, for an eight-ounce mixture. Now, following custom, the pharmacist will take an eight-ounce bottle, put the prescribed quantities of ingredients in it, and then fill it with the solvent indicated. This custom, though quite general, is based on the assumption that all bottles are uniform, and hold the exact amount inblown on their faces. But that this is a false assumption, any one familiar with bottle-blowing must know; or it can be found out by the simple process of measuring.

The first stage in the making of a prescription bottle is the seething cauldron of molten glass. Into this cauldron metallic pipes are thrust, to which globules of liquid glass adhere. The size of the adhering drops will be determined by the depth the pipe is sunken in the glass, or by any slight variation in the temperature of the molten liquid. It is plain, therefore, that the amount of glass in the bottle will vary in consequence, a fact which can be verified by the simple act of weighing separately a few bottles. It will be found, on doing this, that no two in a hundred will weigh precisely the same. And this is true, although all bottles are blown in moulds that have been fashioned with a view to the attainment of the greatest accuracy. The outward size of two bottles may be exactly identical, but if one weighs more than another, it indicates that the glass is thicker, and hence the capacity of the bottle is less.

The first criterion, therefore, by which to judge the capacity of a bottle, must be its outer form or shape. Are there any visible defects? Is the face perfectly smooth? Are there any wavy lines across the surface? The latter condition points to a serious defect, for it indicates that the mould has, in places, chilled the molten glass too suddenly, and this will decrease the inward size of the bottle.

Pondering on these peculiarities of bottle-making, the thought occurred to us to test a few of the prescription bottles on the market. We accordingly purchased a dozen each of two, four, six and eight-ounce vials, which the wholesaler who supplied them represented as the best made. But we found wide variations in their capacities, and our experiments are shown in the table printed below. The bottles were not filled up to the neck, but to the shoulder. That such a small number as a dozen should prove sufficient for our purpose only emphasizes the inaccuracy of the filling process now so commonly indulged in by the best prescriptionists.

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Table Showing Capacity of One Dozen Each of Two, Four, Six and Eight-Ounce Vials Bought in Open Market.

CAPACITY OF A DOZEN TWO-OUNCE OVALS.

Bottle.	Capacity.	Bottle.	Capacity.
No. 1	2 fluid ounces, 135 minims.	No. 7	2 fluid ounces, 95 minims.
No. 2	2 fluid ounces, 176 minims.	No. 8	2 fluid ounces, 110 minims.
No. 3	2 fluid ounces, 144 minims.	No. 9	2 fluid ounces, 144 minims.
No. 4	2 fluid ounces, 168 minims.	No. 10	2 fluid ounces, 145 minims.
No. 5	2 fluid ounces, 111 minims.	No. 11	2 fluid ounces, 176 minims.
No. 6	2 fluid ounces, 109 minims.	No. 12	2 fluid ounces, 96 minims.

CAPACITY OF A DOZEN FOUR-OUNCE OVALS.

No. 1	4 fluid ounces, 92 minims.	No. 7	4 fluid ounces, 190 minims.
No. 2	4 fluid ounces, 141 minims.	No. 8	4 fluid ounces, 156 minims.
No. 3	4 fluid ounces, 124 minims.	No. 9	4 flutd ounces, 77 minims.
No. 4	4 fluid ounces, 125 minims.	No. 10	4 fluid ounces, 110 minims.
No. 5	4 fluid ounces, 190 minims.	No. 11	4 fluid ounces, 124 minims.
No. 6	4 fluid ounces, 109 minims.	No. 12	4 fluid ounces, 157 minims.

CAPACITY OF A DOZEN SIX-OUNCE OVALS.

No. 1	6 fluid ounces, 366 minims.	No. 7	6 fluid ounces, 251 minims.
No. 2	6 fluid ounces, 220 minims.	No. 8	6 fluid ounces, 235 minims.
No. 3	6 fluid ounces, 252 minims.	No. 9	6 fluid ounces, 188 minims.
No. 4	6 fluid ounces, 236 minims.	No. 10	6 fluid ounces, 189 minims.
No. 5	6 fluid ounces, 220 minims.	No. 11	6 fluid ounces, 156 minims.
No. 6	6 fluid ounces, 204 minims.	No. 12	6 fluid ounces, 250 minims.

CAPACITY OF A DOZEN EIGHT-OUNCE OVALS.

No. 1	8 fluid ounces, 70 minims.	No. 7	8 fluid ounces, 70 minims.
No. 2	8 fluid ounces, 71 minims.	No. 8	8 fluid ounces, 72 minims.
No. 3	7 fluid ounces, 336 minims.	No. 9	8 fluid ounces, 69 minims.
No. 4	8 fluid ounces, 134 minims.	No. 10	7 fluid ounces, 470 minims.
No. 5	8 fluid ounces, 54 minims.	No. 11	7 fluid ounces, 468 minims.
No. 6	7 fluid ounces, 422 minims.	No. 12	8 fluid ounces, 6 minims.

From a study of the above it is evident that errors amounting to fourteen per cent may be committed, a matter of serious import to physician and druggist alike.

In view of the facts here shown it is evident that the pharmacist should select his prescription bottles more carefully than has been his custom, or else abandon the practice of filling into the bottle. For prescriptions containing no drugs of great potency, the filling of the bottle to fullness with the excipient may be excusable, but where active remedies are prescribed, there is great danger.

If pharmacists persist in the filling process, then the vials should be carefully culled. This can be rapidly done by weighing them. Select

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some one bottle of as nearly the correct capacity as can be obtained, as the standard weight; place this as a weight on a pan of the scale, and then compare all other bottles with this one. If any of the others weigh more or less by as much as two grams, discard them for accurate prescription work. It will be found that bottles selected in this manner will permit the pharmacist to proceed in the usual way without danger of serious results, for the variation from exactness will not be much greater than if the entire mixture had been made in a graduate, for the reason that the surface area of the liquid in the graduate is greater than that in an oval bottle.

THE SUCCESSFUL PHYSICIAN.

By A. D. Hard, M. D., Marshall, Minn.

[Written for the Medical Brief.]

Success means the satisfactory accomplishment of that which is undertaken. To the moralist it means a blameless life; to the financier it means wealth; to the politician it means office; to the physician it means a big practice. In the first of the four above mentioned, success is idealistic; in the other three, it may depend upon treacherous methods and ignoble deeds.

The physician's calling should place him in the idealistic class, but, unfortunately, we often find him actuated by treacherous methods and ignoble deeds in order to gain what is commonly called success. The confidential nature of contact with his fellow men; the facility with which secrecy may be secured, and the ready access to selfish promptings, all lead a physician to adopt base and unfair means, if he has not been well disciplined in obeying the dictates of his conscience. To many men it is amply sufficient if they are but highly esteemed by their fellow men. To some a true feeling of self-esteem must come first. To the first a good reputation is all; to the second a good character is the aim of life. Reputation is what people think about us; character is what we truly are.

The successful physician of the noble type is usually one who has a moderate-sized practice and who passes through life humbly, his services quite largely ungratefully requited, and his spotless honor unappreciated and unsung.

The physician who is popularly termed successful may be one of the most dishonorable of his race.

I will portray one true to life. He gains admission to a noted college of medicine which is striving to not enforce its rigid admission requirements. By means of ingenious schemes he successfully arrives at the end of his college career without traveling the laborious pathway of honest endeavor. His future is rosy with the sunshine of promise. He

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has acquired a small amount of medical knowledge, and a large amount of experience in tactful methods of getting ahead of his fellow man. Through a "pull" which his father possesses with the State Board, he easily overcomes the last obstacle to his entrance into the ranks of the profession. With plenty of funds supplied by a fond and hopeful parent, he equips an office with an eye single to success. The waiting room is elegant with impressive furnishings, suggestive of great learning. The sectional book-case, facing the door, is well filled with large volumes, selected for their deep-sounding titles and dignified bindings. A handsome microscope, which he never expects to use, is conspicuous under a massive bell glass; and a gaudy static machine is in full view, through folding doors, in a near-by room. A white enameled instrument case near the entrance to the "private office," impressively displays various forms of specula and other mysterious tools on its plate glass shelves, calculated to inspire the average beholder with awe for unusual ability. A golden-framed picture of "The Dying Child," with an old doctor sitting inertly by the bedside, occupies one prominent wall, while his diploma, in a wide rosewood veneer frame, fills the other. On the center-table, a copy of the *Journal of the American Medical Association* suggests to the unsophisticated that the doctor belongs to a very select and exclusive body of very distinguished and able physicians. The "first impression," so adroitly secured by the view of the waiting room, is amply reinforced by the paraphernalia in the private office.

The doctor is not lazy nor unambitious. He recognizes the great value of good repute in securing success, and is a close student of clever discretion. He has no bad habits that are openly discernible. He joins the Methodist church (on his wife's religion), wears a combination Masonic and Odd Fellow pin and an Eagle button. His connection with the church will compel the support of some truly good people, while his membership in the Eagle lodge serves to disarm hostile antagonism of the liquor interests. He "works" the Masonic and Odd Fellow lodges for all they are worth, and distributes his life insurance among the fraternal societies for the purpose of securing appointments as examiner, away from other physicians. He is very "ethical" in regard to advertising. An illustrated biographical article in a local periodical bears a foot-note by the editor, saying that the portrait was surreptitiously obtained, and that the article is published without the doctor's knowledge or consent. This way of managing the matter squares the doctor with ethics, and, at the same time, is the best possible means of advertising.

He does not buy an automobile, because another physician in town uses one, precluding any special distinction to him by so doing. The new Methodist minister is carefully impressed with the idea that our doctor is "the limit" of human wisdom and professional acumen. He is expected to disseminate this information where it will do the most good,

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with zeal and alacrity. Our doctor is not oblivious to the value of assuming a quiet air of respectful condescension toward his brother physicians. They have friends which are to be allured, not repelled. Knowing that selfishness is very common in the human heart, he quickly discovers that if he can make it appear that a patron is gaining something by the change, nothing can prevent his securing other physicians' patients. He drops a quiet word here and there regarding the unfortunate fact that his brother physician does all that he can, *but,* and the but is emphasized, we have new and more effective methods now, which the older physicians do not possess. Consultations furnish splendid opportunities to impress these ideas—if the other physician can be caught out of hearing range. Our doctor's wife is very tactful and diplomatic. She has exceptional opportunities to tell her lady friends that if her husband had been called, he would have used modern methods, which might have led to recovery instead of death. She also sings in the choir, attends the Ladies' Aid Society, and sometimes even goes to prayer-meeting. These all help. He bears the fact well in mind, that if he is to get practice, it must be by securing patients from other physicians, and all is fair in war. The object is to rise, no matter if in doing so he uses his brother's neck as a stepping-stone. There are times when assailing the integrity and morality of a competitor works well, but it must be done shrewdly in order to avoid appearance of envy. Positive contradiction of another physician's diagnosis, with an air of superior knowledge, is a fine card which he also sometimes plays to good advantage. He has two or three subsidized, gossipy women, trying to shorten his road to success. One was secured by a criminal operation on her daughter, securing her apparently disinterested, eternal good will. One came easily from a few well-appointed words of flattery. Our doctor does not refuse to attend a call because his prospects of reward are *nil.* He has found that a smirk and a soft-sounding made-up excuse will usually enable him to avoid the profitless job, and at the same time avoid offense. This is tact.

In three years of diligent attention to these methods of progress our doctor has marched triumphantly toward success. There are a few that have discovered his actual lack of real worth, but "nothing succeeds like success," not even merit. He has a large practice and is making money. No physician in the city will permit him to be called in consultation with them, but that frequently is considered as evidence that they fear our doctor will outshine them in ability, and helps rather than detracts from his prestige. He is a demonstration of the fact that you can fool a large part of the people all the time, all of the people a part of the time, and it is not necessary to fool all of the people all the time to secure success.

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CLINICAL EVIDENCE VS. LABORATORY FINDINGS.

The past few decades have witnessed some startling discoveries and innovations in the practice of medicine. Not the least important has been the advent of the clinical laboratory into the armamentarium of the practical physician for the purpose of enabling him to diagnose disease in its obscure manifestations. For awhile the busy practitioner disregarded the information which could be gained by accurate urine, blood, sputum and bacteriological analyses. He viewed these things askance; all laboratory work being a *terra incognita* to him. Gradually this feeling changed, until now the laboratory of clinical medicine has, in some places, usurped the place of the expert clinician of the old times, the man who *knew* disease when he saw it, who *smelt* and who *felt* disease. The swing of the pendulum has been extreme, from the remote position of total ignorance of secretion and excretion analysis to an all-abiding faith in it, almost to the exclusion of the weighing in the balance of the findings obtained by auscultation, percussion and inspection.

Let us, at this time, lift up our voices in protest against this state of affairs. Let it be clearly stated that the medicine of the future should be as it has been in the past: a building up of men trained in the power of observation, men who can see, and men who can feel. The clinician should learn to gain his information from long experience with mankind, and should only avail himself of laboratory findings, just as he uses the fever thermometer or the stethoscope—a means to an end. Who would content himself with a diagnosis of typhoid fever from a mere inspection of the fever thermometer? And yet there may be some who, failing to find the tubercle bacillus in sputum, pronounce the case non-tuberculous, possibly disregarding a gradual loss in weight, irregular rise and falling of temperature, shallow respiratory excursions, and those other prodromal and early signs of the onset of the tuberculous process.

Again, in some of the very conditions in which physical diagnosis and keen observation has failed to make the diagnosis, resort to the microscope may still further intensify the darkness of the situation, *e. g.*, in the early part of typhoid fever, when quinine fails to reduce the temperature, before the roseola appears. At this time, too, the Widal reaction has not appeared, and when it does appear the diagnosis has already been made by physical diagnostic means.

The sum of experience clearly indicates that the pendulum of reason is swinging back to the middle ground, with the physician continuing to train himself in the powers of observation, availing himself of the microscope as a means to an end, but not placing the laboratory before clinical experience and judgment. This principle should be inculcated in the minds of the student so that the future generation of physicians shall avail

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themselves of God's greatest gift to man—the power of close inspection. Scrutinize, feel, listen, and thump your patients, that you may develop that ideal of the old physicians, the *tactus eruditus.*

HOW SHALL THE PHYSICIAN INVEST HIS SAVINGS?

The recent panic, brought on, practically, entirely by over-speculation, without any adequate excuse for a period of business depression or loss of confidence, naturally brings up the question as to the proper investments for men such as physicians, who earn their money by actual personal effort, who seldom are able to earn much more than they must spend, who have no familiarity with ordinary business conditions, and whose object, in general, is to lay by a small competence for old age or misfortune.

For a young man, who either has, or ought to expect to have, some one dependent upon him, and who needs the check of a definite obligation, the best investment is life insurance. The amount should be at least enough to cover the immediate expenses of death and to provide temporary assistance to his dependents until they can readjust themselves to changed conditions, but should not be so great that too much hardship will be encountered in meeting the premiums. Even if we can not understand all the intricacies of the insurance business, our own professional precedents should lead to the choice of a reputable, old-line company. On account of change in family make-up, it is a safe rule to make the beneficiary "my estate." Many men whose filial affection has led them to name their mothers as beneficiaries have later found themselves virtually keeping up insurance for the benefit of husky brothers-in-law or step-fathers. Life insurance should be taken out as early as possible, to secure a low rate of premiums, and in order to have the policy mature, if death does not occur, in early middle-life, when reinvestment can be made with one's full faculties and in the light of accumulated experience.

On the other hand, an elderly man, with few or no dependents, and wishing the utmost freedom from care and the greatest return from a given principal, should apply to life insurance companies for an annuity. Up to the age of about forty-five, such annuities pay no better interest than safe mortgages, and the principal is sacrificed.

It should be clearly understood, however, that, excepting for insurance and annuities in which the principal is sacrificed, insurance policies are poor investments. Agents talk glibly of the investment value of various forms of Tontine policies and of profit-sharing, but the insurance business, like banking, is based largely on the plan of securing money at low rates of interest and letting it out at higher rates. Generally speaking,

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the investment feature of life insurance policies is about equivalent to putting money in a bank at regular intervals, with a fine if the deposits are not made as agreed upon, with the privilege of withdrawing the money only at the end of ten or twenty years, and at three and a half per cent interest. Experience usually shows that the extra profits "which are not positively guaranteed, but which may be confidently expected," do not materialize.

The following is an actual example: A man took out four ten-year $25,000 policies in old-line companies, at a total cost of $26,700 each (except that there was an extra fee of $5.00 in one company). His profits on this investment were, respectively, $1,845, $2,993.50, $3,652.50 and $4,304.97. If he had deposited the same premiums in a savings bank, he would have received $6,134.40, at four per cent, compounded semi-annually. Of course, in the case of the insurance his estate would have had the benefit of the $25,000 if he had died at any time, but the difference would have been comparatively small after the seventh year. On the other hand, the savings bank investment would have been available for use at any time. In other words, insurance is insurance, not investment.

While stocks vary in value, not only in the sense of fluctuating in price, but with reference to yield of interest (dividends), they can not be bought or sold except at an extra expense for brokerage, and staple stocks usually are at a premium, so that the net interest is just about four per cent. The stockholder is virtually a silent partner in a business which he does not understand, and which he can not control. Aside from the ordinary risks of any business, it often happens that those in control can secure their personal advantage by making the business a failure, just as a jockey may gain by losing a race. Mines have been defined as holes into which money may be dropped, with a liar at the top.

Bonds are virtually partnership mortgages, sold in small shares. The return is not usually more than for standard realty mortgages, five or six per cent. In so far as the realty represents full value, under any circumstances, they are of the same relative value as individual mortgages, with certain advantages and certain disadvantages due to the partnership. It may happen, however, that the plant of a concern is worth much more than the total bonding, so long as it is in operation, but falls much below this amount if the business is discontinued.

If we were in a position to retire and could command a reasonably large capital, say $100,000, it occurs to us that, all things considered, the easiest and safest investment would be a distribution of the sum in amounts of $2,000 or $3,000, among various savings banks, in different localities. This distribution would virtually insure against any consider-

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able loss, the capital would be immediately available—at most, on three months' notice—in any amount desired, and, for an elderly man, the probable maximum duration of life could be estimated so as to allow a gradual exhaustion of capital. If one were willing to live in Europe, the $4,000 annual income would easily be equivalent to $6,000 in this country.

For an active man, desiring to increase a small capital, higher rates of interest are worth the slight additional effort. Of such investments, the safest and easiest are first mortgages on improved real estate, which, at present, can be obtained at six per cent, with a fair margin for shrinkage of value, or at five per cent for a very liberal margin. Care should be taken to avoid investments of this nature in States where mortgages are assessed as personal property. In New York, and a few other States, a tax of one-half per cent is now levied once for all, and even this can be avoided by placing it—very indirectly—on the borrower, or by buying a mortgage already in existence.

Probably the safest investment in theory, is the non-taxable government bond, but the interest is very low—usually three per cent, sometimes with an initial charge for securing the bond—and there is no satisfactory way of preventing accidental loss (as by destruction of the paper by fire), analogous to the method of recording mortgages and deeds.

The safest and best-paying investment for a professional man, who can devote some attention to it, is rent-producing real estate. Excepting under temporary conditions which are liable to sudden change, there is little use in attempting to buy property with the hope of marked increase in value. At least a sixth of farm land is lost in laying out streets for a city. Paving adds three to six dollars to the cost of each front foot, and sewer and water and gas-mains, a couple of dollars more. Thus, bare land bought at $1,000 an acre, and prepared for occupancy in a city, must be sold at about $10.00 a front foot to come out even, and interest and taxes require an annual gain of about eight per cent to avoid actual loss.

As in investments generally, conservatism requires attention, not so much to the possibilities of a sudden rise in value—and any such rise occurs usually only once in all time for any one piece of property, unless the conditions are exceptional—as to the steady income-producing value of property improved for renting. Building is a costly experience for the amateur. At present, there are numerous opportunities to buy improved property at ten times the standard rental. Provided the building is substantial, and not liable to depreciation by reason of change of location of business and residence districts, such investments should net seven per cent beyond taxes, insurance, repairs, etc., including gradual depreciation from age.

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MEDICAL EXAMINATIONS.

Georgia Medical Questions and Answers.*

MATERIA MEDICA AND THERAPEUTICS.

Answered by Dr. H. Crenshaw.

1. Name the chief indications for the use of opium. Answer—Pain, except that from cerebral inflammation; excessive secretions or excretions; internal hemorrhage; excessive irritability.

2. Give the symptoms, treatment and differential diagnosis of opium poisoning. Answer—Symptoms: Coma, moist skin, contracted pupil, depressed cardiac and respiratory action. Treatment: Emetics (apomorphine); tannin; atropine hypodermically; vigorous exercises. The differential diagnosis between opium poisoning and concussion of the brain or alcoholism is made by the condition of the pupil.

3. Name two respiratory stimulants and two vasomotor depressants, together with indications for use, dose and usual method of administration of each. Answer—Respiratory stimulants: (1) Atropine sulphate is indicated in cases presenting respiratory depression from any cause, and it is usually administered hypodermically in one one-hundredth-grain doses; (2) amyl nitrate is indicated for the respiratory depression sometimes accompanying anesthesia, and is administered by inhalation from a cloth upon which one or two thin glass receptacles ("pearls"), containing about twenty minims each, have been broken. Vasomotor depressants: (1) Amyl nitrite may also be given as an illustration here; (2) spirit of nitroglycerin is indicated when the heart is laboring under excessive strain, as in angina pectoris, and may be administered hypodermically in one minim doses.

4. What ratios do hypodermic and rectal doses bear to doses by the mouth? Answer—Hypodermic doses should be twenty per cent less than gastro-intestinal doses, while rectal doses should be twenty per cent more than gastro-intestinal doses.

5. State the doses of two of the best diuretics. Answer—Potassium acetate, dose thirty grains; and digitalis, dose one grain.

ANATOMY.

Answered by Dr. H. Crenshaw.

1. Give the origin, course and distribution of the pneumogastric nerve. Name the groups of spinal nerves and the members of each group. Describe the solar plexus. Give brief general description of the sympathetic nervous system. Answer—The pneumogastric nerves take deep origin from the floor of the fourth ventricle, and superficial origin from the posterior-lateral grooves of the medulla. From their superficial origins they diverge, leave the skull through the jugular foramina, pass down the front of each side of the neck, each lying between and behind the carotid artery and internal jugular vein of its side. Each pneumogastric nerve passes in front of the subclavian artery and breaks up into a pulmonary plexus behind the root of the lung of its side. From these pulmonary plexuses each pneumogastric nerve emerges, and the two converge to join in a plexus on the esophagus; from this plexus the right vagus passes to the posterior wall of the stomach, and to the solar plexus, whereas the left vagus passes to the front wall of the stomach. The pneumogastric nerves give off branches to the heart, stomach, lungs, œsophagus, pharynx, larynx, trachea, external ear, meninges, and the abdominal viscera. These branches are named pharyngeal, laryngeal, etc., according to what they supply.

The groups of the spinal nerves are: The cervical group, including the cervical nerves, Nos. 1 to 8; the dorsal group, including Nos. 1 to 12 the lumbar group, including Nos. 1 to 5; the sacral group, including Nos. 1 to 5; and the coccygral group, consisting of one pair.

The solar plexus is a large plexus lying in the epigastrum, formed by the greater and lesser splanchnic, the right vagus, and filaments form the upper lumbar sympathetic ganglia. This plexus contains two large semilunar ganglia.

The sympathetic system consists of (1) two chains of ganglia passing from the base of the skull to the coccyx along the sides of the spine; (2) three large plexuses—the cardiac, solar and hypogastric, together with smaller subordinate ganglia, and (3) nerve fibers—some connecting this system with the cerebro-spinal nerves, and others supplying various viscera, etc.

2. Give divisions of the spinal vertebræ. How would you identify bones of cervical vertebræ or dorsal vertebræ? Name the bones of the carpus and of the tarsus. Name the bones of the pelvis. Answer—The first part of this question is ambiguous, and it is doubtful whether the examiner is asking for the divisions of a typical vertebræ or the divisions of the vertebral column. The vertebral series is divided into the cervical verte-

*Medical Consensus.

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bræ, distinguished by the foramina in their transverse processes; the dorsal vertebræ, distinguished by the facets for the ribs; the lumbar vertebræ; the sacral vertebræ, and the coccygral vertebræ.

The bones of the carpus are: The scaphoid, semilunar, cuneiform, pisiform, trapezium, trapezoid, os magnum, unciform.

The bones of the tarsus are: The os calcis, astragalus, cuboid, navicular, internal cuneiform, middle cuneiform, external cuneiform.

The bones of the pelvis are: The sacrum, coccyx, and two os innominata.

3. Name the muscles comprising the quadriceps-extensor-femoris. Describe the triangles of the neck. Answer—Rectus femoris, vastus internus, vastus externus, and crureus.

The triangles of the neck are five in number. The submaxillary triangle is bounded above by the lower border of the mandible, and a line continuing this border to the mastoid process, below by the anterior belly of the digastric, and behind by the posterior belly of the digastric and stylo-hyoid. This triangle contains the submaxillary gland, the facial artery and facial vein, and the floor is formed mainly by the mylo-hyoid muscles. The superior carotid triangle is bounded behind by the sternomastoid, above by the digastric, and below by the omo-hyoid. It contains the bifurcation of the common carotid artery. The inferior carotid triangle is bounded above by the omohyoid, below by the sternomastoid, and in front by the median line of the neck. It contains the lower part of the carotid sheath, trachea, thyroid gland, etc.

The occipital triangle is bounded behind with the trapezius, in front by the sternomastoid, below by the posterior belly of the omohyoid, and contains the external jugular vein. The subclavian triangle is bounded below by the clavicle, above by the posterior belly of the omohyoid, and in front by the sternomastoid. It contains the subclavian vessels and the branchial plexus.

4. Describe the circle of Willis. State the relation of the internal to the external carotid arteries. Name the branches of the external carotid artery. Answer—The circle of Willis is an arterial ring at the base of the brain, formed in front by the anterior communicating artery connecting the two anterior cerebral arteries, formed on the sides by the internal carotids and posterior communicating arteries, and formed behind by the diverging posterior cerebral arteries, which are terminal branches of the bassilar.

At its origin (the bifurcation of the common carotid) the internal carotid lies external to the external carotid, but passing up the neck it crosses inward so as to reach the carotid canal, and is distributed to the interior of the skull. The external carotid lies internal to the internal carotid below, but is distributed to the exterior of the skull and associated structures.

The eight branches of the external carotid are: The ascending pharyngeal, superior thyroid, lingual, facial, posterior auricular, occipital, internal maxillary, and the superficial temporal.

5. Describe the diaphragm. Describe the heart. Name and state relations to bones and muscles of the blood vessels found on cross section at the middle of the thigh. Answer—The diaphragm is a discoid muscle presenting a dome-like upper surface when relaxed. It arises at its circumference by muscular fibers from the ensiform cartilage, six lower ribs, bodies of the lumbar vertebræ, and the ligamenta arcuata. It is inserted into a central tendon, and receives the phrenic nerve. When contracting, it deepens the chest cavity.

The heart is a hollow, muscular organ of conical form, and about five inches long. It is situated behind the sternum, so that its base is in relation to the upper segment of the sternum, whereas its apex is in the fifth intercostal space, nearly an inch within the nipple line. The heart is inclosed in a fibrous bag called the pericardium, which is lined with a serous membrane reflected on to the heart proper. The cavities of the heart are the two auricles above, and two ventricles below. The right auricle and ventricle are connected by a three-lipped valve, called the tricuspid, while the left auricle and ventricle are connected by a two-lipped valve, called the mitral. The right ventricle opens into the pulmonary artery through the pulmonary semi-lunar valve, whereas the left ventricle connects with the aorta through the aortic semilunar valve. The right auricle receives the venæ cavæ, and the left auricle receives the four pulmonary veins. The heart and its valves are lined with endothelium; and the heart muscle is striated, though involuntary. The heart is inervated by the pneumogastric, sympathetic and cardiac nerves, and contains resident ganglia.

A cross section at the middle of the thigh would show the profunda vessels lying close to the femur on its posterior and inner aspect, between the vastus internus and adductor magnus muscles. Rather more than half way from the

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bone to the skin on the inner surface of the thigh the femoral vessels should appear in Hunter's canal, which lies between the sartorious, vastus internus and adductor longus muscles. The femoral veins lie to the outer side of the artery, and the profunda vein lies to the outer side of the profunda artery. The internal saphenus vein lies on the inner aspect of the thigh, just under the skin.

CHEMISTRY.

Answered by Dr. H. Crenshaw.

1. What is a normal salt? An acid salt? A double salt? Answer—Normal salts are those containing no replaceable hydrogen. Double salts are those containing two metals. Acid salts contain hydrogen.

2. Differentiate between sulphates and sulphites. Answer—Sulphates are salts of sulphuric acid, and contain four oxygen atoms per molecule, whereas sulphites are salts of sulphurous acid, and contain three oxygen atoms per molecule.

3. What is the chemical name and formula for Epsom salt and for Glauber's salt. Answer—Epsom salt is crystaline magnesium sulphate, having the formula $MG_2SO_4+7H_2O$. Glauber's salt is sodium sulphate $NA_2SO_4+10H_2O$.

4. How does hydrogen dioxide act as an antiseptic? Answer—Some authorities claim that it does so act, but it certainly cleans pus pockets mechanically by evolving oxygen, which brings the pus out as foam.

5. Complete the following equation and name each resulting compound. $BaO_2+H_2SO_4$. Answer—$BaSO_4$ (barium sulphate) $+H_2O_2$ (hydrogen dioxide).

PHYSIOLOGY.

Answered by Dr. H. Crenshaw.

1. Name the seven functions of the skin. Answer—For the human organism I hardly think we can claim seven distinct dermal functions. The well-defined purposes of the skin are: Protection, excretion, radiation of heat, support to soft parts, sensation, and (to a limited degree) absorption. Skin may be regarded as the source of tegamentry structures, such as nails, hairs, etc.

2. Name the five digestive juices, giving briefly the action of each. Answer—We have only three digestive "juices," namely, the saliva, the gastric juice, and the intestinal juice; but the following five digestive ferments may be mentioned: Ptyalin, which converts starch into sugar; pepsin, which converts proteids into peptones; amylopsin, which converts starches into sugar; trypsin, which converts proteids into peptones, and steapsin, which emulsifies fats.

3. Name the three things constituting one action of the heart and their time. Answer—The modern view of the cardiac cycle is that it consists of four elements, viz: (1) Auricular systole, 0.1 second long; (2) Ventricular systole 0.3 second long; auricular diastole 0.7 second long; and ventricular diastole 0.5 second long. The whole cycle lasts approximately 0.8 second; and the ventricular systole begins simultaneously with the auricular diastole.

4. What volume of air is taken into the body at an ordinary inhalation? How much of this is oxygen? And how much of the oxygen is absorbed? Answer—500 cc. (tidal air), of which about 21 per cent (by volume) is oxygen. About 5 per cent absorbed into the blood.

5. What three cranial nerves are for special sense? What six are exclusively motor? What three are compound in function? Answer—Sensory: Auditory, optic, olfactory. Motor: Oculomotor, trachlearis, abducent, hypoglossal facial. Spinal accessory. Mixed: Trifacial, pneumogastric, glossopharyngeal.

PRACTICE.

Answered by Dr. H. Crenshaw.

1. State etiology, symptoms, and treatment of lobar pneumonia. Answer—Etiology: Infection by the diplococcus pneumoniæ; by such predisposing causes as exposure to cold, ether narcosis, surgical operations, previous attacks, alcoholism, nephritis, heart disease, etc. Symptoms: The first stage is begun with a chill, sharp pain in the side, dry cough, rusty sputum, rise of temperature. The physical signs are some loss of expansion and percussion, rales, and crepitation. The second stage shows marked dyspnea, livid face, temperature of 104° to 105° F., and pulse of one hundred and ten to one hundred and twenty. Also exaggerated vocal fremitus, diminished expansion, dullnes over the consolidated lung, and bronchial breathing. The third stage is begun by a "drop in temperature followed by natural sleep," sweating. Also numerous moist rales, bronchial breathing, and decreased dullness.

Treatment: Milk diet; rest in bed; supporting drugs for the heart, such as strychnine, digitalis and nitroglycerin; ice bags to the chest, and warm and cold packs to control temperature; oxygen to relieve the dyspnea; sometimes bleeding in vigorous patients.

2. Define scarlet fever and describe proper method and handling a case.

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Answer—Scarlet fever is an acute infectious disease, beginning suddenly with sore throat, vomiting, high fever and erythematous rash. The incubation period lasts from one to five days.

The patient should be isolated and the house placarded till desquamation is complete. Bed and liquid diet should be prescribed. Attendants should wear protective garments while in the sick room to avoid carrying out the infection, and the door should be guarded by a curtain consisting of a sheet kept moist with antiseptics. All attendants should carefully disinfect their hands upon leaving the patient. The patient's nose and throat should be kept cleansed with alkaline antiseptics, such as Dobell's solution. Prescribe small doses of calomel for intestinal disturbances, cracked ice for vomiting, phenacetine or paragoric for nervousness, stimulants for weak pulse, and tonics and stimulants during convalescence. A careful watch should be kept for kidney complications.

3. State etiology, symptoms and treatment of cholera infantum. Answer—Etiology: Gastro-intestinal infection by bacteria, occurring in milk, promoted by unsanitary surroundings, warm weather. Symptoms: Diarrhea, restlessness, thirst, vomiting, high fever (105° to 108° F.), purging; later on, emaciation, apathy, clammy skin. Treatment: Colon irrigation, twice daily, ice water for thirst, even if vomited, strychnine hypodermically, and morphine hypodermically to allay nervousness. Liquid diet, or none.

4. Define uremia. State its diagnostic symptoms and treatment. Answer—Systemic poisoning (following nephritis) by effete matter, which is normally eliminated with the urine. Important symptoms: Albuminous urine, coma, visual disturbances, convulsions. Promote elimination heroically with calomel, croton oil in olive oil, and with hot vapor baths. Chloral or chloroform may be used to control convulsions. The diet should be liquid.

5. State the source and treatment (prophylactic and curative) of malaria. Answer—Source: One or more varieties of the malarial parasites, called hemosporida, and often transmitted by mosquitoes. Prophylactic measures consist in avoidance of mosquitoes and malarial districts, and general upbuilding of health. Curative treatment consists mainly of appropriate doses of quinine sulphate, arsenic trioxide, and rest in bed.

SURGERY.

Answered by Dr. Frank K. Boland.

1. Define surgical shock. (a) How would you treat it? Answer—Shock is a sudden depression of the vital powers, due to injury or profound emotion. Treatment: Raise feet, lower head, apply heat to body without burning. give ten drops one one-thousand adrenalin chloride hypodermically, or in one quart salt solution subcutaneously, or one pint intravenously. Or, rectal injections of hot coffee, one pint; whisky, one ounce. Artificial respiration, if necessary.

2. Describe an operation for the radical cure of oblique inguinal hernia. Answer—Incision through skin and facia three inches long, one inch above Poupart and parallel to it, beginning just external to the middle of the ligament. Aponeurosis of external oblique, now split along same line. Cord is isolated, and hernial sac freed from adhesions by blunt dissection. Sac then ligated high up and cut off, seeing that intestine is not caught in the stump. In Bassini's operation the internal oblique muscle and conjoined tendon are now stitched by interrupted sutures to the inner half of Poupart, with the cord lying on top. Aponeurosis and skin closed in layers.

3. Describe Halstead's operation for the removal of the breast. Answer—Incision through skin and fat encircling breast broadly: another incision from top of this one to point just above axilla. This makes a triangular flap above and to the outer side of breast. Pectoralis major is separated from chest, leaving clavicular attachment. Costal part of the humeral insertion is also removed. The muscle, breast, fat and pectoralis minor are now stripped from chest wall. Triangular flap is retracted outward, and axilla cleared of glands and fat. Supra and infraclavicular fat and glands are also removed. Wounds are closed with as little tension as possible, skin-grafting being done, if necessary.

4. Describe an operation for amputation of the thigh at the middle third. Answer—make long anterior U-shaped flap, as long as the antero-posterior diameter of the thigh at saw-line. This incision goes to muscle, which is cut through the bone at higher level, bone being sawn through at level of the beginning of the U-shaped flap. The posterior U-shaped flap should be one-third the length of the anterior flap. Tunicate in groin must be made secure to prevent slipping. Make periosteal flap to cover end of bone. Close skin with interrupted sutures, leaving drainage for first two or three days. Bandage stump on external splint.

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BOOK NOTICES.

A MANUAL OF OBSTETRICS. By A. F. A. King, M. D., Professor of Obstetrics and Diseases of Women in the Medical Department of George Washington University, Washington, D. C., and in the Medical Department of the University of Vermont, etc. Tenth edition, enlarged and thoroughly revised. 12mo., six hundred and eighty-eight pages, with thirty illustrations and three colored plates. Philadelphia and New York: Lea Brothers & Co. Price, cloth, $2.75.

BLAKISTON'S QUIZ-COMPENDS. A Compend on Bacteriology, including Animal Parasites. By Robert L. Pitfield, M. D. With four plates and eighty other illustrations. Philadelphia: P. Blakiston's Son & Co. Price, $1.00.

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A MANUAL OF THE ECLECTIC TREATMENT OF DISEASE. Designed for the many Students and Practitioners who are now Diligently Searching for Knowledge of the Most Direct Action of Drugs, as Applied to Exact Conditions of Disease. By Finley Ellingwood, M. D., Author of "A Synopsis of Medical Chemistry," "Manual of Urinalysis," "Materia Medica, Therapeutics and Pharmacognosy," Editor Ellingwood's Therapeutist, etc. In two volumes, Volume II. Chicago: Published by the Author. Price, two volumes, $6.00.

Dr. Ellingwood has for years been an editor of medical journals, and at the present time his best efforts are given to "Ellingwood's Therapeutist." He has given the profession many books of value, and this, his latest, is one of his best efforts. It deserves a careful reading, and much good can be gained from it.

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PHYSICIANS' DAILY MEMORANDUM. Complimentary from M. J. Breitenbach Co., 53 Warren Street, New York City.

The use of appointment books has become a necessity to every busy man, in whatever business. The little red book mentioned here, though available for professional engagements, is perhaps still better used to note, in advance, social

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engagements, dates of medical meetings, payments of life insurance and other premiums, days for meeting financial obligations, or expecting the payment of incoming accounts of various kinds. It often happens that a physician thinks of some paper which he wishes to prepare for an occasion months ahead, or that a debtor makes a promise for a certain date. By immediately writing down such memoranda an immense amount of confusion, loss of time and money and embarrassment with regard to conflicting engagements is saved. By a cross or check-mark the disposal of any engagement may be indicated, and thus the book becomes a diary which may even be of great importance legally.

BUSINESS METHODS OF SPECIALISTS, OR HOW THE ADVERTISING DOCTOR SUCCEEDS. By J. D. Albright, M. D., author of the General Practitioner as a Specialist and editor of Albright's Office Practitioner. One hundred and twelve pages, cloth. Price, $1.25, postpaid. Published by the author, 3229 N. Broad Street, Philadelphia.

Occasionally there comes to the reviewer's desk a book that gives the impression of being distinctive, in that it pertains to a subject that has not previously been covered; in short, a book that at once appeals to the reader and holds his interest until every chapter has been read.

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In the chapter "The Remedy," it is pointed out that legislation is not the proper course to pursue to bring about the elimination of the irregular practitioner, and contains important suggestions which the ethical man may well consider seriously. We commend the book to our readers.

A NON-SURGICAL TREATISE ON DISEASES OF THE PROSTATE GLAND AND ADNEXA. Third Edition. By George Whitfield Overall, M. D., Chicago, Ill. Rowe Publishing Co., 72 E. Madison Street, Chicago, Ill. Price, $2.00.

In noting the voluminous writings and discussions of the various surgical operations upon the prostate, and the paucity of non-operative procedures, we do not wonder at the rapid succession of one edition following another of this little book. The first chapter reviews succinctly the anatomy and functions of the gland, besides illustrating profusely its relation to adjacent organs. Then follows a concise though replete description of its pathology, and, by means of several colored plates illustrating different lesions of the prostate and its relations with contiguous organs, it renders differential diagnosis easy. The author deprecates the apathetic indifference, and justly so, of physicians in differentiating lesions of the prostate. He has clinically demonstrated that less than one per cent is of true indurated hypertrophy and incurable, while ninety-nine per cent of them are due to chronic inflammatory enlargement and the large majority can be cured. Physicians should not conclude that senility implies hypertrophy. The descriptions and illustrations of the cystoscope are especially interesting and edifying, as are also those of several new and useful instruments for applying the medicine directly to lesions of the urethra, vesicle neck and prostate. Special attention is called to the chapter on "Neuroses of the Prostate," as there are many obscure nervous diseases of

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PROGRESSIVE MEDICINE. A quarterly digest of advances, discoveries and improvements in the medical and surgical sciences. December 1, 1907. Edited by H. A. Hare and H. R. M. Landis: Published by Lea Bros. & Co., Philadelphia. $6.00 per annum. The present volume (three hundred and thirty-six pages, illustrated, paper binding) includes the digestive organs, kidneys, surgery, genito-urinary diseases and a practical therapeutic referendum, by various department editors and contributors.

This is an immensely valuable and practical review, of special service to the busy practitioner, who can not read the great mass of current literature. Obviously, the attempt is not made at a complete review of literature, but rather to select a few articles of marked value as representatives. It is, of course, impossible to make such a review complete, and, naturally, any one critic may feel that omissions of importance have been made, and it seems to us that, to some degree, the department editors have forgotten that they are editors and have impressed upon the work too much of their own personal views. Indeed, a great deal of space has been used in expressions, quite proper in an original magazine article or text-book, that might better be devoted to a laconic statement of the results of others.

One serious criticism ought to be made. Certain of the articles are so frequently marred by faulty rhetoric, and even by gross grammatic errors, that the blame can not be attached to the printer or proof-reader. Occasionally, the meaning is not clear and tables are quoted without sufficient explanation. For instance, in quoting A. O. J. Kelly's analysis of "two hundred and sixteen cases of biliary infections," it is stated that "the infectious agents were isolated in seventy cases," and that no bacteria were found in thirty-four cases. Again, in a condensed review, there is scarcely space for the statement, undoubtedly correct as it is, that "œsophageal ulceration should be suspected in all cases with symptoms pointing to ulceration in the lower part of the œsophagus." Probably when the special senses and speech are discussed in a future volume, we shall be informed that deaf-mutism is due to the fact that certain individuals are born without the faculty of speech.

Notwithstanding these blemishes, which can easily be removed, this publication is a most valuable work.

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., FEBRUARY, 1908. NO. 2.

POST-GRADUATE INSTRUCTION IN LONDON.

BY MAX. H. LE CLERC, M. D., Paris, France.

[Written for the MEDICAL BRIEF.]

Every year vast numbers of people from the United States of America visit Europe, and many of them spend a considerable portion of their time in London. Amongst these visitors, and none are more welcome, are many physicians and surgeons, some from the big centers of learning, others from remote country districts. In most cases the trip is, in all probability, undertaken for health's sake or for pleasure, but many are anxious to combine with this the advantage of seeing hospitals and hearing of modes of diagnosis and methods of treatment which, although they may be no better than those with which they are familiar, and in daily contact, may present certain points of novelty from the fact that they have been elicited and developed under different conditions of environment. At all events, the fact remains that most doctors who come to London wish to make the acquaintance of their English colleagues. It must be admitted, however, that they often fail to do so, and possibly return home with a vague feeling that the British are not given to hospitality. This I think, arises from various causes which may readily be explained. Possibly, in a considerable number of cases, the American visitor leaves home in pretty much of a hurry, and on arriving in London has very vague ideas of the best mode of procedure. If he is personally acquainted with any members of the staff of a hospital, or brings with him letters of introduction, his path is made smooth for him. But very generally this formality is neglected, and he has only an imperfect and hazy recollection of one or two names which may have been rendered familiar to his ears as the authors of special papers, or, perhaps, of text-books. He is puzzled, too, by the fact that he knows of no one particular institution to which he can go for advice and information. He is confused by the vast array of hospitals, and, if by chance, he drifts into one of them, he does not know for whom to ask, as he can not recall the names of the visiting members of the staff.

I would strongly urge on every American medical visitor to London that he should bring with him letters of introduction, or, at all events, some proof of his identity and standing. Should he desire to take out a post-graduate course, or attend clinical lectures at one of the hospitals,

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if not personally vouched for, he may be asked to produce evidence of his medical qualifications. This is perhaps not unreasonable, as London is now the great center for visitors from all parts of the world.

Another difficulty arises from the fact that many of our visitors make their appearance during the months of August and September. This is "out of the season," and London is comparatively empty, every one who can possibly get away being "out of town." This applies, not only to social life, but to a very great extent to the work of the hospitals. It is the "slack time;" the particular period of the year when the opportunity is taken for painting, washing and generally renovating. The students are away on their holidays; there are few lectures, and the senior members of the staff hand over their work to the assistant surgeons and physicians. It is not suggested for one moment that they are not equally competent to see the patients, but, as a rule, they are less known than those who have been longer in practice, and have consequently had greater opportunities of establishing an international reputation. Of late, however, our American visitors, especially those desirous of making a prolonged stay, have come earlier in the year, and often appear in considerable numbers in May and June. This is a decided improvement, for London is then at its best, the season is in full swing, and the hospitals are working to the utmost of their capacities. The wards are full, clinical lectures and teaching are pursued with avidity, and there is none of that "slackness" which sets in with the advent of holiday time.

Passing now from the general to the particular, I will give a list of the London General Hospital; that is, hospitals with medical schools attached, and where students, during a course of five years, can obtain a complete education. These hospitals are "general" in the fullest sense of the word; that is, they contain medical and surgical wards, with out-patient departments, pathological and bacteriological laboratories, and special clinics for instruction in diseases of the eye, ear, skin, throat, and so on. The instruction is given by systematic lectures, clinical lectures, demonstrations and teaching, both in the in-patient and in the out-patient departments.

The general hospitals in London are eleven in number, and they are here arranged alphabetically:

St. Bartholomew's, Charing Cross, St. George's, Guys, Kings, London, St. Mary's, Middlesex, St. Thomas', University College, Westminster.

These are the official names, but it may be as well to say that they are rarely given their full title, which is usually considerably curtailed, thus the first on the list is always called "Barts," and we also speak of "Thomas's," "Mary's," and so on. It is not possible for me, in the space at my disposal, to enter into details of the advantages offered by each of these hospitals, but I may mention one or two points which may be found practically useful:

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St. Bartholomew's is probably the oldest hospital in London. It is in the city, or, rather, on the edge of the city, and occupies a large block of buildings in Smithfield, close to the general postoffice. It contains seven hundred and forty-four beds, and the whole structure is in process of slow rebuilding.

Charing Cross is at the west end, and close to the Charing Cross Railway Station. It is a comparatively small hospital, but as it is within three minutes' walk of the Royal Dental Hospital, it attracts a good many dental students.

St. George's is at Hyde Park Corner, one of the most fashionable and expensive situations in London. It is a small hospital, and has only a small school, but it is patronized by many men from both Oxford and Cambridge.

Guy's is in the city; it is a large hospital, and has over six hundred beds. It is somewhat remote from the West End, and the large hotels where, as a rule, American visitors take up their residence, but it is well worth a visit.

King's College is in the Strand, within a reasonable distance of all the big hotels, especially the Cecil and the Savoy. It is in somewhat of a transitional state, as the hospital will shortly be removed to Camberwell, one of the suburbs of the city. The laboratories at the college are good, and facilities are afforded for original work in physiology and pharmacology.

The London contains nine hundred and fourteen beds, and is in Mile End, Whitechapel. It was, at one time, almost a day's journey to get there, but, thanks to the introduction of "tubes" and motor cabs, it is now fairly accessible.

St. Mary's is at Paddington, and is fairly convenient for residents in Bloomsbury and Bayswater.

The Middlesex has a special cancer department, and is close to Oxford street, and not far from Portland Place.

St. Thomas's is on the "other side of the Thames;" that is to say, at Lambeth, but it is fairly accessible. Its buildings face the Houses of Parliament, and are considered to possess architectural features of merit.

University College is in the north of London, not far from Middlesex Hospital. The hospital has recently been rebuilt, and its college enjoys a high reputation.

Westminster Hospital is in the Broad Sanctuary, immediately opposite Westminster Abbey and close to all the big West End hotels. From its situation it is largely visited by American and colonial students.

The medical schools confine their instruction to men students, but there is one for women.

The London School of Medicine for Women is carried on in the Gray's Inn Road in connection with the Royal Free Hospital. The entire school

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has, of late years, been entirely rebuilt, and greatly enlarged. The laboratories are large and well-lighted, and are fully equipped. There are also libraries and common rooms for the use of the students, and sets of chambers to accommodate seventeen women.

The hospital has one hundred and sixty-five beds, all of which are available for clinical instruction. There are separate departments for gynecology and obstetrics, and diseases of the eye, ear and skin. Instruction is given in anesthetics, bacteriology, etc., in addition to the ordinary clinical lectures and demonstrations and tutorial classes. Students also attend the practice of one of the fever hospitals of the Metropolitan Asylums Board, and receive special instruction in lunacy at one of the hospitals under the Asylums Board of the London County Council; they are also admitted to the practice of a number of special hospitals.

All these medical schools are constituent colleges of the University of London, but the university is itself not a teaching body, but simply examines candidates and grants degrees.

Dr. Alchin, in an address recently delivered at King's College, London, pointed out that: "The London University was shackled with what had proved to be a cumbersome and unwieldly machinery, and had far from fulfilled the hopes and expectations of those who, for so many years, had striven for its improvement, and could hardly be looked upon as having satisfied the wishes of those more recent workers in the field who had played the greater part in directing its course. The reconstitution of the university was, in fact, nothing but a compromise between the views of those who maintained the all-sufficiency of examinations and accounted it almost sacrilege to lay altering hands thereon, and those who, admitting the necessity of tests, yet would subordinate them to the teacher and to teaching. Opportunism and expediency had had their usual result, and the University of London had lost the great chance it had had, when starting on its fresh course, of becoming the standard examining body for London. For many years past that honorable position had been most efficiently filled by the Royal Colleges of Physicians and Surgeons, though the qualifications that they granted gave no legal right to the title of M. D."

The university buildings are at South Kensington, at what was formerly the Imperial Institute, but they present no points of interest to the medical visitors. The centers of attraction are the hospitals themselves.

In addition to these "general" hospitals, there are many "special" hospitals of standing and repute which have no medical school, but where a great deal of good work is done, where clinical instruction is often given, and where lectures are sometimes delivered, although not usually in systematic course. The best known of these hospitals are:

Brompton (for consumption, etc.); The Cancer, Queen's Square (for nervous diseases); Great Ormond Street (for children's diseases); Bethlem (for lunacy, and The Lock (for venereal diseases).

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These are not the official names of these hospitals, but the names by which they are generally known.

The list is by no means complete, and there are dozens of other hospitals where equally good work is done, and where there is much good material for study. For example, the "Samaritan" is excellent for diseases of women, and "Moorfields" is one of the most famous eye hospitals in the world.

At any of these hospitals the casual physician, on presenting his card to the house surgeon, will be invited to go round with the physician or surgeon whose day it happens to be, and will be freely shown all cases of interest. This invitation is not confined to a single visit, but is extended for any reasonable time, although if a visitor wishes to attend the practice of a hospital for, say three months, he would do well to obtain a ticket for which he will be required to pay a small fee, but which makes him free of all the general hospitals, and of the best known of the special hospitals. It is by far the best plan to take out this inclusive ticket, which relieves him of all further trouble.

There is in London a very useful scheme admirably adapted for post-graduate students, known as The London Post-Graduate Association.

The association has been founded with a view to encouraging the post-graduate study of medicine, particularly in its clinical aspects. With this object cards are issued to qualified medical men (British, colonial or foreign), which entitle the holder to the following privileges:

Joint cards of admission are issued to the clinical instruction of the following metropolitan hospitals (general and special), and schools of Medicine:

General.—Charing Cross, Guy's, King's College, Middlesex, St. George's, St. Mary's, St. Thomas's, University College, Westminster.

Special.—Brompton Hospital, for diseases of the chest; Hospital for Sick Children, Great Ormond street; London School of Tropical Medicine, National Hospital for the paralyzed and epileptic, Royal London Ophthalmic Hospital.

They admit the holders to clinical instruction in the wards and out-patients' rooms, to clinical lectures and post-graduate courses, and to attendance at operations and *post-mortem* examinations at all the hospitals mentioned.

The academic year is divided into three sessions of three months each, viz.: January to March, May to July and October to December.

The cards are issued at the following rates:

Valid for three months, 10 guineas (that is: £10, 10s, or about $52.00).

Valid for six months, 15 guineas. And any longer period at the further rate of 9 guineas for each additional six months.

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It may be mentioned that in England all professional fees are paid in guineas, although there is now no such coin in existence. It is equivalent to 21 shillings.

Holders of cards may obtain an extension of their original term by paying the difference of rate at any time before the original term has expired.

A general time-table of the arrangements of the different hospitals and schools is furnished with the cards. Any further enquiries must be addressed to the dean of the particular school concerned. A list of operations, clinical lectures and other arrangements can be seen daily at the secretary's office.

This scheme is undoubtedly a very good one, although it will be noticed that two of the largest hospitals are not included in the "combine." What the explanation of this may be I do not know, unless they have sufficient students of their own, and do not care to lay themselves out for post-graduate work. That, however, is a matter of very little importance, as in all probability very few men taking out this ticket would find time to attend all the hospitals on the list, as it would involve a considerable waste of time. Another point which may be mentioned is that this ticket does entitle the holder to a certificate of attendance for examination purposes. When a certificate of attendance is required, and these certificates are not to be despised, the qualified practitioner would probably do better to devote his energies to and work at one of the general hospitals where there are special departments. Most of the hospitals afford facilities for this purpose. Usually graduates are admitted to the hospital practice and lectures for three months for a fee of 11 guineas, or 16 guineas for six months. Clerks and dressers in the special departments are periodically appointed, and there are also pathological clerks who work in the *post-mortem* room under the superintendence of the pathologist.

It is well to mention that at most hospitals the visits are paid in the afternoon at 1:30 or 2 o'clock, but in all hospitals there is a morning visit by one or more members of the staff, every day in the week, so that no time need be wasted.

In addition to the London Post-Graduate Association, but entirely distinct from it, is the London Medical Graduates' College, commonly known as the Polyclinic. It is frequented mostly by practitioners in medicine living in London and the suburbs. It is not a hospital, as there are no wards and no out-patients, or special departments. Patients are brought in from outside, and are obtained either from other schools or through the influence of members of the polyclinic, and are utilized for the "consultations." Sometimes very good cases are shown, at others they are of a very ordinary description. The institution supplies a want, and is prob-

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ably more useful to the neighboring general practitioner than to the American visitor who wishes to lay himself out for serious work.

Short courses on bacteriology, pathology, dermatology, electricity and other special subjects are available both summer and winter in most of the hospitals, and the fees for attendance are very small. The facilities offered are quite as good as in Paris, Berlin or Vienna.

For visitors wishing to take out a course of anatomy, or to perform operations on the dead body, Cooke's school can be recommended. It is a private enterprise not connected with any hospital, but the teaching is sound, and individual attention is given.

I am often asked about the expense of living in London, and the only answer I can make is that you can live as expensively or as cheaply as you like. At a first-class hotel in the West End, you can easily spend six or eight dollars a day, whereas, in a boarding house in a perhaps somewhat less fashionable quarter, that sum will suffice for a week. For two men making a visit together, a good plan is to take rooms at one of the less-expensive hotels, and to dine at one of the cheap restaurants, of which there are many scattered all over London. This plan is not recommended for a solitary individual, however enthusiastic he may be, for dining alone, night after night, is, to say the least, depressing. It is best, if possible, to come with an introduction, and it may be hinted that the MEDICAL BRIEF, with its wide ramifications, might be found useful in this respect. I have dealt with the subject on the widest possible grounds, and have refrained from mentioning the names of any particular physicians or surgeons who have gained distinction as clinical teachers.

In conclusion, I should like to make a few remarks on the social position of the medical man in England, remarks founded on an admirable article on the subject which recently appeared in the *Medical Press* of London:

"It is a fact, and one worth noting, that in ordinary society a medical man is not only always sure of a cordial reception, but he is always regarded among his patients as a peculiarly intimate friend, and one whom they are especially pleased to honor. Inasmuch as a medical man has no ready-made position of authority such as has a clergyman, nor the prestige of one of the destructive professions, such as the army or navy, nor the prospect of wealth that may be garnered from business, but simply his own attainments and personality to rely upon, it follows that the calling of medicine must attract men of higher potentiality than other lines of life, and endow them with an unusual degree of urbanity and kindliness, for them to attain such a position.

"The cause of this social estimation lies in the humanizing influence that the practice of medicine exerts on its followers; the knowledge of men and women at their best and at their worst, a knowledge which fails to make doctors cynics, but succeeds in making them sympathetic friends.

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"The reward of the medical man's work and the pleasure of his existence must be measured by the benignity he acquires as he grows older, and certainly not by his balance, if balance there be, at the banker's. The man who sets out in practice with the intention of making a fortune and 'founding a family' is rapidly undeceived; the conditions of work and its remuneration leave no scope for such tokens of worldly success. If, through a happy combination of private means, professional success, and influential friends he finds himself attached to the Court and the recipient of a baronetcy, the highest external honors available for a medical practioner in England will have been attained, but he will figure but ignominiously in the eyes of society when he sits down to dinner with an archbishop, a lord chancellor, a field marshal, a belted brewer, and a bacon king. In fortune, in influence, in importance in the councils of the State, the medical man can compare with none of these."

COMPLETE ALOPECIA.

By John V. Shoemaker, M. D., LL. D.,

Professor of Materia Medica, Therapeutics, Clinical Medicine and Diseases of the Skin in the Medico-Chirurgical College and Hospital, Philadelphia.

[Written for the Medical Brief.]

This young woman whose case I shall report is suffering from an infirmity that is quite common and most difficult to cure. She is twenty years of age; nativity, United States; occupation, dressmaker. Three years ago the hair of her scalp first began to fall out in small areas, giving rise to what is known as alopecia circumscripta. Treatment to the scalp had absolutely no influence upon the condition to ameliorate it. The hair continued to come out rapidly and in the course of four months she was completely bereft of hair on the scalp. The eyebrows and eyelashes had also dropped out and, in fact, there is now not a single hair to be found over her entire body.

She knows of no one among her relations that has had the disease. In her immediate family not one of them is partially bald, though her father is sixty years of age. As a child she had measles, scarlet fever and whooping cough. Since her tenth year she has not been ill, except that during her last year in the high school she became markedly nervous, which was three years ago. She then had a slight attack of chorea.

Sudden and rapid loss of hair, occurring in the course of from a few days to twelve or sixteen weeks, constitutes acute alopecia. It may or may not be attended by a change in the appearance of the hair, and inflammation or other cutaneous alterations of the skin may or may not supervene. In some cases the scalp is not changed in appearance and the hairs fall, or are combed or brushed out daily to the number of from fifty to hundreds. The individuals so afflicted may not experience any

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subjective symptoms at all. In other instances the rapid loss of hair is preceded or accompanied by an inflammation or eruption. Formation of crusts or scurf, which may be either slight or marked, and itching, smarting, burning and even painful sensation may be experienced. Chronic alopecia, the most common form, may or may not—like the acute—be accompanied with primary or secondary changes in the scalp. At times before or during the loss of hair, the scalp is affected with dry seborrhea or some other cutaneous disease. In very many cases, however, no alteration is apparent, either in the general appearance of the hair or on the surface of the scalp. Chronic alopecia usually begins at the vertex and extends forward on the frontal bone, and on each side, over the parietal bones to the pinna of the ear. Sometimes the loss of hair commences just above the forehead, and so spreads to the parts already named. It proceeds so gradually that it often escapes the most observant, until the second stage is reached, when baldness is almost certain to follow.

Senile alopecia is due to an alteration and atrophy of the hair-forming apparatus. It begins on the crown of the head where the vascular supply is poorest. The hairs become short, thin, rough, dry, turning gray and are cast off, not to be restored.

Diagnosis.—It is essential to ascertain early the causative element in each case, and distinguish between acute and chronic alopecia. In the acute form, shedding is diffuse and rapid, the hairs, on examination, show no evidence of disease in change of diameter toward the root end or any change of color. In the chronic form the very opposite condition is present. Shedding is gradual, the thickness of the hair is lessened and the color of the hair is often altered.

Pathology.—The hairs loosen and fall, owing to the lack of nutrition caused by the shedding of the epithelial cells of the sebaceous glands and hair follicles. In the advanced stages the wall of the hair follicle becomes the subject of ascending hypertrophy, the cavity being obliterated from below upward by a new development of fibrous tissue. The derma itself finally becomes atrophied, the muscular fibres in it decrease and its connective tissue elements becomes more abundant. The sebaceous glands are first enlarged, later atrophy takes place and the subcutaneous connective tissue becomes adherent to the derma. The blood vessels and nerves remain unaltered.

Etiology.—Premature loss of hair is more common in men than in women, and this fact no doubt is due to the large quantity of subcutaneous fat in women, and also because women pay more attention to their hair than do men. Constitutional and local causes are often the forerunners of alopecia. Among the internal causes are improper diet in children as well as in youths and young adults. The nervous system which controls circulation, secretion and nutrition of the entire organism, if impaired, will give rise to alopecia as readily as any other causative

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agent. In this patient we have a history of nervous derangement at the time when the hair first began to fall and this is the only assignable cause of her trouble. In some patients it is impossible to ascertain any assignable cause, and in such instances the patient usually has inherited poorly developed hair. Heredity, indeed, often seems to play an important role as the causative agent of alopecia. Alopecia may also be caused by anything that will irritate the scalp, such as the use of a stiff brush, sharp comb, dust and foreign material of all kinds; the use of too strong soaps and other cleansing agents employed, dyeing the hair, constant shampooing and close cutting in men are likewise factors in premature loss of hair.

Treatment.—The patient above reported has been recommended constitutional treatment more so than the local, as she is a neurotic and needs forced feeding of easily digestible and concentrated foods, such as eggs, milk and meats. Her food should be rich in nitrogen. Medicinally, I am giving her a tonic, and digestive combination as well, for its alterative influences, as follows:

℞ Tincturæ Nucis Vomicæ.....2 fluid drachms.
Acidi Hydrochlorici Diluti..... ½ fluid ounce.
Liquoros Acidi Arsenici .....2 fluid drachms.
Glyceriti Pepsini (Nat. For.) q. s. ad....6 fluid ounces.

Locally for the present she is having daily treatment of galvanic electricity. The negative or cathode pole applied to the scalp with a current of ten milliamperes for ten minutes twice a day, and the static current will also be given for its general and favorable constitutional impression to the nervous system.

1805 Walnut St.

DEATH FROM DELAY IN APPENDICITIS.

By Emory Lanphear, M. D., Ph. D., LL. D., St. Louis, Mo.
Professor of Surgery in the Hippocratean College of Medicine.

[Written for the Medical Brief.]

If the exact truth were told I greatly fear there would be many death certificates bearing the cause of death as given in the above title.

From an experience now covering several thousands of abdominal sections, as well as many hundreds of cases of appendicitis examined, but not subjected to operation, I have reached the conclusion that if a patient be seen within the first forty-eight hours of his attack he can be saved by any competent operator; a few hours delay after this means death in the hands of the infrequent operator, because the work must be done at the very height of inflammation; while cases which have gone

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on to the eighth or tenth day will get well in the hands of almost any kind of a surgeon who does not try to do anything more than simply open the perityphlitic abscess, which ought to be well walled-off from the abdomen by this time (though it sometimes is not).

But in the interval between the second and the tenth day there is a period full of danger to the patient, and full of disaster to the surgeon. Just as long as the patient continues "doing well" there is, in many instances, no harm done in waiting—for either convalescence or formation of the protecting adhesions; but only too often the patient does not "do well" and the surgeon finds unconquerable difficulties on opening the belly—with another death laid to surgery instead of to delay.

A case typically illustrative is this: Mrs. B., aged thirty-two years, was seen on a Tuesday afternoon, with Dr. W. H. Townsend, of Maplewood, who had diagnosticated acute appendicitis of twenty-four hours' duration and urged instant operation. She was childless, known to have old pyosalpinx; had first attack of appendicitis twelve years ago, second four years ago and salpingitis six months ago; for past twenty-four hours had been vomiting, with characteristic pain in region of appendix, and temperature of 100° F. Examination showed much tympanites and general bad condition. Operation was declined by advice of an "interne" who counseled delay. Wednesday she was worse; Thursday she was so sick that she was willing to have anything done to save her life. So, late on the fourth day of her illness, abdominal section was made. Immediately upon opening the belly there was a gush of pus, nasty, stinking, feculent; the abscess around the appendix had ruptured and the whole pelvis was full of pus; and the left tube was the site of old pyosalpinx. The pus was cleaned out, the abscess quickly removed and the pelvis packed with gauze, hastily, because it seemed as if the patient must die upon the table. She rallied somewhat, but soon began to show signs of "heart failure." The toxins of sepsis were poisoning the heart muscle, and early next day she died of acute sepsis.

Here was a life sacrificed by delay; for I am sure we could have saved her by operation before rupture of the large perityphlitic abscess. If the attending physician and myself had stood by our convictions and insisted upon early operation instead of yielding to the "siren song" of the consultant we might have had no death to our discredit. I believe in such a case it would be right to retire from the case, letting the "delay doctor" assume the entire responsibility. Certainly we did not do what was best for the patient in waiting for adhesions which never formed; if she had been doing well, the delay might have been excusable, but since the course was downward all of the time, the diagnosis clear from the very first, and consent obtainable by urging, I can not but feel that here was another plain case of "death due to delay."

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SOME REMARKS ON TUBERCULOSIS OF THE TESTES.

By Carl Phister, M. D.,
Surgeon to St. Mark's Hospital and to the German Poliklinik, New York City.

[Written for the Medical Brief.]

Primary tuberculosis of the testicle, though formerly denied by many authors, is now an established fact, as indicated by the numerous investigations of Virchow and others. In ancient times even this form of neoplasm of the testicle had attracted the attention of the surgeon, but only quite recently have investigations and researches thrown a somewhat clearer light upon the subject. Clinical, anatomical and pathological facts point to the blood vessels as the carriers of the infected material to the testicle, but no evidence whatever is at hand showing that the infection has occurred in the urethral canal, and in this way involving the testicle. Moreover, numerous *post-mortem* examinations have shown that frequently in cases with the clinical features of primary tuberculosis of the testicle, dormant foci of infection existed in different parts of the body.

Inflammatory processes resulting from gonorrhœa, or trauma, are important causes of the development of testicular tuberculosis, but the role of inheritance has to be taken into consideration, and is an important factor in the differential diagnosis of the origin of the infection, either in the testicle or in the epididymis. According to the seat of origin the symptoms of development vary. If the disease starts in the testicle, symptoms of acute orchitis, without any complications, are prevalent. The testicle is somewhat enlarged without reaching a large size. In the beginning the surface is smooth and even; later, only after the focus has spread, and abscess is formed, the surface becomes nodular, and in palpating we find the consistence of uneven distension.

If the epididymis is the seat of origin, hard, round nodules are formed in the head or tail of the epididymis, but very rarely in the center. These enlarged nodules, together with the granulations of the connective tissue, often form large tumors, with a hard, uneven surface, and elastic at some points. The vaginalis is frequently filled with a thick, yellowish-green fluid, even in cases where the testicle proper is not yet infected. The *vas deferens* can remain free from infection, even if the testicle and the epididymis already have been invaded. Most of it is thickened by inflammatory products and infiltrated with tuberculous masses.

Two years ago I operated on a young man about twenty-one years of age, who, after a gonorrhœa had developed a tubercular epididymitis. Pus had already formed, and the abscess was opened and drained, but without success. The testicle became infected, as did the *vas deferens;* furthermore, an extensive phlegmon of the abdominal wall complicated the matter. The testicle was removed, the phlegmon incised, and the patient

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made a rapid recovery, and has gained about forty pounds in weight. No sign of tuberculosis in any other part of the body.

Clinically we find two clearly marked forms of tuberculosis of the testes: The acute and chronic form; besides these forms we find some mixed varieties.

The acute form of tuberculosis of the testes presents almost the same clinical picture as in acute gonorrhœal epididymitis. Tuberculosis may also invade the bladder, the prostate or the urethra, or be absent in all these organs.

Tuberculosis of the testes is first evidenced in the patient's general condition by pallor, loss of flesh and pain in the epididymis. This organ soon becomes greatly enlarged; there is always a rise of temperature, and abscess will sooner or later develop. When the tail of the epididymitis is affected, a mass of suppurating tissue, connected by a fibrous string, is found in the loose scrotal tissue.

Abscess is the direct outcome of the softening of the tuberculous tissue. The infective process and the infiltration compresses and destroys the seminal tubules, and leads to diffuse orchitis. The scrotal wall is infected, dissolved and perforated by numerous fistulæ. In advanced cases the skin often becomes bluish-red in color. In all these cases the function of the testicle is destroyed by the invasion of the center of the testicle by the infective process.

How rapidly this destructive process may progress is well shown in the following case:

In April, 1907, I was called in consultation to see a young man thirty years of age, married; two years ago he had had two hemorrhages from the lungs, but had recovered and enjoyed good health ever since. He married, and his wife was pregnant.

I found the patient in bed with a scrotum distended to about the size of a head; no fistula, but distinct fluctuation; temperature 104° F., pulse one hundred and thirty, and weak. The swelling and pain in the testicle had commenced only four weeks before I saw the patient, and for three weeks he was confined to bed, his temperature varying from 102° to 104° F. He never had had gonorrhœa, nor any other sexual disease, and could not remember to have suffered any trauma. Treatment had consisted of wet applications and of ichthyol ointment, with morphine injections, to relieve the pain and enable him to sleep. The pain was so severe, and the condition of the patient so grave, that I did not dare put him on a table, but under total anesthesia I made a large incision into the scrotum, evacuating about a quart of pus mixed with blood and suppurating tissue.

Immediately after the operation he felt relieved, and after a week his general condition had so much improved that under chloroform narcosis, I removed the rest of the testicle with the cord. Two weeks after

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the operation the wound healed, and the patient was removed to a mountain resort. Since that time he has gained about twenty pounds.

In regard to the local treatment of these acute cases of tuberculosis of the testes, I have come to the following conclusions:

If the entire testicle is invaded by the infection, and large portions of it have broken down and suppuration has formed, conservative treatment is absolutely contraindicated, and only castration may offer a hopeful prognosis. If only small abscesses are present, and the center of the testicle seems to be intact, every attempt should be made to save it. The abscesses can be opened and curetted, the sinuses leading into the epididymitis scraped and drained. Sometimes the injection of iodoform and glycerin is of great benefit, but, above all, the general hygienic surroundings of the patient are of greatest importance. It is not always possible to send our patients to the mountains to recuperate, but we can well advise them to keep their present surroundings in the best possible condition, and to see that they are properly nourished.

In chronic tuberculosis of the testes the clinical features differ in many respects from the symptoms observed in acute cases, and often only accidentally are the first changes in the epididymitis discovered by the patient. These changes, for the most part, consist of a small, hard nodule, not increasing in size for some time, and causing little pain; they may be confined entirely to the testicle without involvement of the prostate, the seminal vesicles, or any other part of the genito-urinary tract. Months, even years, may pass before these infiltrations may break down and form abscesses and fistulæ.

The epididymis in these chronic cases often reaches an enormous size, even before the testes proper become invaded by the infection.

In about three hundred cases in which I resected the epididymis, the prognosis was good, and recurrences were few. In other chronic cases in which the tuberculous process had been latent for years, a sudden change may occur, either in the testicle or in the surrounding organs, and at once present the picture of an acute tuberculosis.

In most cases of tuberculosis of the testicle the prostatic gland also becomes infected; the enlargement, with hard nodules and numerous infiltrations, can easily be palpated by digital examination from the rectum.

The prognosis in these cases as to length of life is extremely uncertain. Much depends upon the general environment. If the patient lives under the best hygienic conditions, his chances for recovery are naturally better than those of the man who works in a factory, for instance; although I have seen the latter class recover, and remain in health. It is not upon the knife alone, however, that we must depend to fight this treacherous disease, but we must take advantage of every other suitable means at our disposal, and this, in a word, consists of good food and good air.

75 West 47th St.

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THE IMPORTANCE OF AN EARLY DIAGNOSIS AND IMMEDIATE OPERATION IN ECTOPIC PREGNANCY.

By J. Cameron Anderson, M. D.,
Professor of Surgery in New York School of Clinical Medicine; Attending Surgeon to West Side Dispensary; Associate Attending Surgeon to St. Francis Hospital, New York City.

[Written for the Medical Brief.]

The purpose of this article is to call the attention of the medical practitioner to the importance of making an early diagnosis in cases of ectopic gestation. This pathological condition is greatly on the increase in our large cities, due, to a certain extent, to the frequency of malpractice in cases of abortion, midwifery, and various venereal diseases resulting in a distortion of the fallopian tubes sufficient to prevent the impregnated ovum from reaching the uterine cavity.

The symptoms here enumerated cover all those of practical value in this condition, and embody a careful study of the subject, including the writings of Kelly, Greig Smith, Park, Warren-Gould, and others.

DISTURBANCE OF MENSTRUATION.

Menstruation is nearly always delayed. The quantity of the flow varies in each case. The bloody discharge usually indicates the shedding of the decidua, and there is invariably a history of sterility.

Presence of a tumor.—A mass is usually felt laterally of doughy consistence, and accompanied by neither the acute pain nor temperature of an inflammatory condition. This mass disappears on rupture of the pregnancy.

SYMPTOMS OF PREGNANCY.

With the foregoing there are the usual symptoms of pregnancy: nausea, changes in the breasts, softening of cervix and discoloration of the vaginal mucosa.

ENLARGEMENT OF THE UTERUS.

The uterus is found enlarged and softened. An examination with a sound is warrantable on history of hemorrhage, and the emptiness of the uterus confirms and establishes the diagnosis.

RUPTURE.

Rupture usually occurs in the latter part of the third month, but may occur as early as the sixth week. Women who have been treated for various uterine and tubal diseases are the patients who require great care in examination, as it is in this class of cases that the condition most frequently occurs.

TREATMENT.

Vaginal section, with its usual infection upward of a sterile field, morphine injections, electric currents, and other methods a short time ago in

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vogue, are only mentioned to be condemned as dangerous and useless. Vaginal section may be used in septic cases, and then only in conjunction with abdominal section. All of these cases should be treated by immediate laparotomy, except when moribund.

The supplying blood vessels should be directly ligated before any attention is paid to mass or clots. If the tube has ruptured, this ligation will at once stay the hemorrhage. Hot saline irrigation from a pitcher should be profusely resorted to after testing on the bare arm of the operator, to ascertain whether it is too hot; flushing out all the clots that will be found in the lumbar depressions and up under liver and diaphragm should be practiced.

In some cases it may be necessary to give a direct infusion of saline solution into the veins during the operation. Should the case be a septic one, drainage by a tube running from the abdominal wound out through the vagina should be employed. In infected cases drainage should not be used, as it will cause infection through the gauze, or tube, by capillarity, and predispose to ventral hernia and formation of adhesions, which may distress the patient the rest of her life.

This is the one operation that should be done immediately, and especially if rupture has occurred. The operator must work with speed, and thus conserve the strength of the patient and the vitality of the peritoneum, upon which we depend for absorption and rapid recovery.

A tight binder, covering a firm dressing, will aid materially in equalizing the abdominal blood pressure, and hasten convalescence. The results following the treatment herein suggested are very gratifying.

53 East 51st St.

PHLEBITIS FOLLOWING APPENDECTOMY.

By Edward Wallace Lee, M. D.,
Formerly Professor of Surgery in Creighton Medical College, Omaha, Neb.

[Written for the Medical Brief.]

One of the complications following appendectomy, regardless of the conditions demanding the operation, is phlebitis. This condition—a swelling of the right leg—has been observed by me a number of times following operation for appendicitis in my own practice, and in the practice of other well-known surgeons.

It is not the province of this paper to delve into the etiology of this condition, but simply to call attention to the fact that this complication prevents the immediate recovery of many cases which otherwise could be considered cured. In the "interval" operation of appendectomy the idea is to prevent recurrent attacks, and to place the individual beyond the possibility of appendicitis. So many of these cases have come under my observation that I feel justified in giving expression regarding the cause of this complication as a sequel of appendectomy.

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I believe the best way to impress the "occasional" surgeon is to call attention to the complications that arise in the practice of the surgeon who operates every day. I do not wish to criticise the "occasional" surgeon; he is a man who should be prepared to meet any emergency, but it is in the practice of the "occasional" operator that I have met most cases of post-operative phlebitis. The operation in these cases was usually perfectly satisfactory, but the complication was permanent in the majority of them. The "occasional" surgeon does not operate in cases of appendicitis when the true indications present themselves; he waits until his patient is in a more receptive condition. He then undertakes what he calls the "interval" operation. He makes his incision according to his anatomical knowledge, and, I am sorry to say, regardless of the technique laid down by those men who have studied and made a perfect "interval" operation. The outside operator may have certain ideas regarding his procedure, but the moment he has transversed the integument, he seems to forget everything but the location of the appendix. His one object is to reach this organ quickly. Is there a bleeding vessel? Is there oozing? Is there hemorrrhage from some uncertain point? Yes, there is! He has within his hands the means of controlling the hemorrhage, and he resorts to the measure in a physical way, regardless of anatomical, pathological or physiological conditions.

The fact that he has controlled this hemorrhage in his energetic manner, is often the cause of phlebitis. He crushes arterioles, small arteries and large arteries. His one object is to stop immediate hemorrhage. His object primarily having been accomplished, he is in perfect ignorance of the after effects.

Ordinarily the operation of appendectomy in the hands of a man who knows pathological anatomy, is a simple operation, but the man who undertakes an "interval" operation, without sufficient knowledge of the existing conditions, is likely to have his patient present themselves a few weeks later suffering from phlebitis.

The ordinary surgeon, or practitioner, is more justified in operating on a case of appendicitis where he can positively diagnose abscess with the accompanying septicæmia than on the so-called "interval" case. In the former, every surgical procedure is indicated by the physical signs as they present themselves. In the latter, there are many fine and delicate manipulations of surgery which only the expert should attempt.

Phlebitis is a complication which follows appendectomy more often than has been recorded. This knowledge I have gained from the examinations of patients that had been reported as absolutely recovered from the operation, but who afterwards found it necessary to consult a surgeon in reference to the swelling of the right leg. The first evidence of this condition has been described as an "inconvenience" in walking, then "heaviness of the foot;" later, swelling of the foot, the ankle; finally swell-

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ing of the leg and thigh, and great difficulty in locomotion. On examination we find, in addition to the swelling, great tenderness along the veins; sometimes along the saphenous vein; sometimes along the femoral, all indicating that a septic process has interfered with the functions of these vessels.

I have observed this complication at periods ranging from six months to a year and a half following operation.

TREATMENT.

So far as the treatment is concerned, I advise absolute rest in bed, with elevation of the affected limb; proper massage, bandaging, and mechanical supports to prevent further complications which would necessarily follow if the diagnosis had not been properly made.

616 Madison Ave.

PRINCIPLES OF PRACTICE IN THE TREATMENT OF GENITO-URINARY DISEASES.

By T. W. Williams, M. D., Milwaukee, Wis.

[Written for the Medical Brief.]

Chronic nervous, organic and functional affections of the genito-urinary system of man arise from various causes, but are all traceable to wrong modes of life and bad habits. Habitual over-excitation of the functions of the pelvic organs is responsible for those indiscretions and excesses of youth and manhood which impair the nerve centers and lay the foundation of many ills in after-life. The injury reacts long after its cause has ceased. Youthful vitality recuperates the organs for awhile, but as mid-life approaches, the symptoms indicative of presenility begin to appear. The majority of men at fifty experience a decline of natural vigor which, in the ordinary course of events, should not overtake them before sixty-five or seventy.

Most cases of this kind can be remedied; at least I have not found them difficult to remedy, and I attribute the indifferent success of others to the fact that the routine treatment laid down in the books, and followed by physicians who have had little or no experience of their own to guide them, is radically wrong in theory and practice. There is, in reality, no reason why weakening and premature decline of the genesiac functions should not yield to appropriate treatment as readily as those of other organs of the body. But we will never attain this object by hackneyed prescriptions of "phosphorous, nux vomica and damiana," and other reputed aphrodisiacs and nerve tonics. The practice is predicated on error, and fails because it does not reach the cause of the trouble, which must be sought in the central plexus from which genetic innervation is derived.

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If I am right, and I believe I am sustained by physiology and neurology—the malpractice of stimulating a flagging function with mere nerve-irritants is apparent. That remedies of this class are capable of inducing temporary erethism of the hypogastric and sacral plexus which is reflexed to the genitalia, must be admitted. But the subsequent reaction leaves the functions in a weaker condition than before, necessitating increased dosage, until the nerve center *no longer responds* to excitants. Phosphorus, the type of this class of stimuli, owes whatever virtue it possesses as an aphrodisiac simply to its irritative action upon the cells. It is *never assimilated,* according to Robin, and may be recovered from the urine. The cerebral congestion produced by most reputed aphrodisiacs can not be repeatedly induced with impunity, particularly in cases of elderly men—most frequently subjected to such experiments, on account of the tendency to sclerosis and brittleness of the cerebral arteries.

The train of evils usually included under the popular term, "Seminal Weakness," can not be wholly ignored. If we seek the causes of this prevalent vice of youth, we must include all those circumstances concerned in the merging of childhood into pubescense, which ushers a new element into life, seeking expansion and proliferation, and struggling to extend and engraft itself upon other processes for the transmission of life.

The premature excitation of the functions of sex hastens the formation and evacuation of the life-giving principle, and, once established, it continues independently of habit and volition, and becomes a physical and mental menace to the undeveloped frame of youth and early manhood. That it leads to dementia in thousands of cases, indirectly, we have indubitable proof, but I believe that mental alienation in these cases is not so much the direct offspring of the vice as that destruction of hope and courage in these despondent sufferers by the misrepresentations of pernicious quackery which poisons the mind of youth, paralyzes the energies of promising young life and plunges it into the depths of despair.

What can we do for this unfortunate class of sufferers? It will not do to chuck them under the chin and say, "That's all right, my boy; don't you worry—just let it alone, correct your habits, take care of yourself, and live right, and nothing will come of it." Their sufferings are too vivid, and their fears and anxiety too real, for the time being, to be "piffed" away in this manner, and must be recognized and treated by the physician, or they will fall into the hands of the fraternity of quacks who are largely responsible for their condition; and we had better face things as we find them, however disagreeable, instead of shutting our eyes and pretending not to see them.

Limitations of space forbid my going into details of treatment, and I will therefore content myself with a general outline of the principles which my experience approves as the most successful. I have found internal medication *alone* wholly unsatisfactory, and often positively harmful,

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except when some systemic fault or condition requiring correction is present. In most cases, however, the general physical condition is satisfactory. Probably eighty per cent of the cases which consult the physician are of either a psychic or functional nature, in which constitutional therapy would be malpractice.

I have frequently been consulted by patients whose general health, although perfectly good at the commencement of the trouble, had been practically destroyed by medication intended to restore functional activity. In the other twenty per cent the important factors of the condition had apparently been ignored—the causal organic or constitutional disease had been overlooked, and they had been plied with aphrodisiacs, to the injury of the digestive apparatus, without any betterment of the *status impuisance.*

In fact, the internal treatment advisable in a majority of these cases, should be of a restorative and upbuilding character, such as the neuro-phosphoid and lecithinic compounds, derivatives of cerebral, cord and nerve substance, in combination with strychnia, avena, saw palmetto, etc. The true neuro-phosphoid compounds, in an assimilable form, supply to like parts, when in an atonic condition, the vitalizing substances of which they have been robbed. We have abundant clinical proof that their physiological action is that of a brain and nerve nutrient, rather than that of a stimulant, and that the increased circulation favors the metabolic process, so that their therapeutic action is systemic, instead of being limited to any organ, or set of organs. They are, in fact, blood, nerve and muscular tonics and foods, rather than medicines.

Phosphorus, undoubtedly the life-giving principle of mind, brain and nerve, in its free state, is simply a slow poison, but in its allotropic state of glycero-phosphate, or vitalized phosphate, in brain and cord substance, it becomes assimilable as a highly specialized nerve and brain nutrient. But let me remark, *en passant,* that to get results you must be sure that you have an assimilable phosphoid, not merely an albuminized compound that splits up in the stomach and turns free phosphorus loose upon the organism, as in some compounds on the market. I believe the whole tribe of hypophosphites is a mistake—mere cell-irritants from which free phosphorous is broken off, and may be recovered from the urine, as affirmed by Albert Robin.

Now, in cases where the general health and physical stamina are more or less impaired, with systemic debility, catarrh, weak heart, poor circulation, loss of appetite, feeble digestion and general debility, this form of medication often works miracles, in conjunction with appropriate local means and general hygiene, systematic, selective diet and a reasonable amount of out-door life and exercise. Suitable tonics and alteratives may be given in conjunction or combination—such as nux vomica or strychnia,

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echinacea, hydrastis, cratægus, avena, guaiacol, etc., according to indications.

The more ordinary organic complications met with include affections of the urethra, prostate gland and bladder, if we exclude diabetes mellitus and albuminuria, which are constitutional. In these cases resort must be had to urinary antiseptics, uric acid solvents and analeptic diuretics. A synergic compound of saw palmetto, sandal oil, lithia and formin, which without overtaxing the kidneys, relieves the inflamed, œdematous membranes of their puffy condition, by inducing greater tonicity of the contractile fibers, expressing the stagnated excess of fluid content, will often give present relief, while paving the way for more permanent results later on.

When cases are coexistent with tuberculosis, syphilis, or other constitutional diseases, the latter must, of course, receive proper consideration in the general plan of treatment, upon which I can not even touch in this article, as it would lead me all over the whole field of specific medicine. Every genito-urinary specialist is familiar with the layman who comes seeking a panacea for loss of virility, ignoring the more important constitutional malady to which it is due, or considering it merely a side issue.

These general considerations leave but little space for specific local treatment, the more important in eighty per cent of functional and psychic cases, and I shall pass over it more briefly than I originally intended. The plan of local, or direct treatment, includes local medicaments applied directly to the affected parts, mechano-therapy, rectal suppositories, urethral crayons, artificial lymph, and solutions and ointments per urethrum.

The action of medicaments incorporated in crayons, solutions and ointments, is confined principally to the parts with which they come in direct contact, as for example, the urethra and prostate gland; but that of the products of organo-therapy for local application and absorption is two fold, being taken into the circulation, and producing systemic effects similar to those of hypodermic injections, without their disagreeable features, in addition to their specific local action. This is also true of rectal suppositories, a form of medication by absorption, advocated many years ago by Bodenheimer, and possessing the advantages of both local and systemic action without any change of the character of the medicament through the action of the digestive ferments, or any interference with the digestive tract—thus saving those much-abused organs much unnecessary and disagreeable work.

The rectal suppository may be medicated with iodine, creosote, hydrastis, hyoscine, icthyol, or any desired medicament for specific action on the deep urethra, prostate gland and vesiculæ seminales. The crayon, or soluble bougie, is more limited in its action, which is confined principally to the urethral membrane. It may be medicated with almost any of the various remedies usually employed in injections, to which it is preferable on account of retaining the remedy in direct contact with the diseased

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surface for a longer period of time, affording better facilities for absorption and penetration into the creases, folds and follicles of the membrane, destroying the latent gonococci, otherwise protected from the action of ordinary injections.

The same remarks are still more applicable to ointments introduced by applicateurs, especially designed for the purpose. The one I employ is an instrument of my own design, now in general use by genito-urinary surgeons, consisting of a reservoir provided with a screw plunger, for containing and extruding the ointment, and a long, catheter-like stem, perforated at the end.

In chronic cases of posterior urethritis, I have found an oily solution of arhovin, morphia, hyoscine hydrobromate and iodine, a local application of superior merit. It is applied with a little instrument which any one can extemporize, consisting of a No. 16 French gum catheter, seven inches long, with a small rubber bulb attached, with which about thirty minims of the solution is drawn up and injected into the deep urethra through the catheter passed in its full length.

In uncomplicated cases of psychic or atonic *impotentia sexualis,* I have found nothing equal to an artificial lymph for local absorption by the *membrana preputialis.* It is simply a physiologically tested and standardized combination of the lecithin, or neuro-phosphoid elements found in the brain, cord and orchitic glands, combined with echinacea, strychnia and trinitria to direct and modify its action upon the genito-spinal center, forming a cencentrated liquor aphrodisica which is applied directly *to the membrana preputialis,* and its effects are almost immediate, on account of the rapidity of its absorption. The theory of its action is that, on being absorbed by the venous radicals of the highly vascular membrane, like a hypodermic injection, it acts upon the terminal filaments of the *nervus pudendus,* supplying this part, and the impression is conveyed through the *nervi erigentes* to the genito-spinal center, and reflexed back to the arteries and arterioles, supplying the pelvic organs. It acts as a vasodilator, dilating the arteries and causing a rush of blood to the parts, inducing congestion and erection. When applied daily, at regular intervals, for awhile, in doses of from ten to fifteen minims, an increased blood supply is effected, which promotes the nutrition and development of the parts. This method of administration is original with the author, but he bases no exclusive claims upon it, as the principle is as old as the science of medicine; and as any soluble substance, morphia, strychnine and various alkaloids and solutions are readily absorbable by this highly vascular membrane, and produce their specific effects the same as if injected subcutaneously, the only wonder is that it has not been utilized for this purpose before, especially for specific action upon the pelvic organs, since its anatomical and physiological connection with them through the genito-spinal

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center was demonstrated by the researches of Günther, Budge, Eckhard and Goltz nearly three-quarters of a century ago.*

Physicians, as a rule, do not realize the absorptive possibilities of the *membrana preputialis,* which is more vascular than the web of a frog's foot and as absorptive as the tongue. Let any one doubtful of the accuracy of this observation test it for himself with a physiological dose of apomorphine, hyoscine, atropia or glonoin. From *a priori* reasoning, we would logically arrive at the conclusion that as medicaments are almost immediately absorbed by this membrane, and conveyed into the general circulation—and as it has a direct anatomical connection with the sacral plexus, which innervates the entire system of pelvic organs, through the *nervus pudendus* and the *nervi erigentes* of Eckhard, therapeutic agents could be administered in this way with much greater facility than through the stomach or hypodermically. *Clinical* experience has demonstrated the correctness of this reasoning, and demonstrated the fact that we can influence these organs directly and more promptly by preputial medication than in any other way. The theory of its physiological action, already explained, viz.: That the impression upon the membrane is transmitted through the nerves to the genito-spinal center, and thence, by a reflex action similar to the phenomena of blushing, as explained by physiologists, back to the organs that receive their nerve impulses from that center, is undoubtedly the correct one. It acts primarily as a vasodilator, dilating the arteries and causing a rush of blood to the parts, followed by the tonicity incident to improved nutrition due to increased blood supply.

There are no panaceas, no cure-alls, no patent formulas or secret proprietaries to exploit in this connection. My object, as stated in the title, is to deal with the principles of practice in this specialty, without entering into details, assuming that the average competent physician, understanding the underlying principles of the treatment, should be as competent as myself to select the proper remedy or combination of remedies for the desired objects. In fact, no stereotyped formula to suit all cases indiscriminately would be practicable. Each case must be treated upon its own merits, according to its indications as developed upon examination, and I therefore refrain from confusing the reader with a multiplicity of formulas. The modern treatment of genito-urinary diseases includes both organo-therapy and mechano-therapy.

Before concluding this paper I will refer briefly to the value of the latter in *impotentia sexualis.* Although the over-fastidious, who would allow mankind to suffer rather than relieve them in an unorthodox manner, may object to such innovations, as unnatural, although, in reality, they are not more so than other artificial supports—crutches, splints, spectacles, false teeth, hair, etc., I consider them, on the contrary, commendable as proper adjuvants of suitable medical treatment, which alone is ad-

* Budge, J.: Untersuch. auf das Nerven System, etc., 1841–1842. Eckhard: Beiträge zur Anatomie und Physiologie, 1858–1888. Goltz: Archiv. für die gesammte Physiologie des Menschen, etc., 1846. Günther: Anatomie, Physiologie, und Thierarzneikunde, etc., 1837.

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mittedly inadequate and uncertain. There is, in fact, quite as much inhumanity in denying to sexual cripples mechanical aids to subserve the purposes of "a crutch" to act as a supporter until the parts, under appropriate medical treatment, regain their normal firmness and strength, as in depriving other classes of sufferers of the appliances devised by modern surgery for their relief. The fact that, like electricity and other great medical discoveries, the quacks have seized upon this branch of mechanotherapy to exploit crude, unphysiological, and more or less injurious appliances, in a manner calculated to bring the treatment into disrepute, is no good or sufficient reason for not prescribing appropriate mechanical aids in suitable cases for use under proper medical advice, as I am in the habit of doing in all cases in which it is necessary.

In cases in which the natural powers are prematurely lost, for example, either from disease or psychic causes, or are not under the control of the will, a physiologically constructed appliance for the purpose simply fulfills the office of a crutch or brace for the lame, and gives the necessary support for discharging the normal functions of the organ during the interim in which therapy and nature combine to restore the normal state of affairs. In fact, artificial aids of some kind, so as to permit of the exercise of the generative functions, is a *sine qua non* in many cases, without which restoration of virility is practically impossible. Disability often results from purely psychic causes, even when physical capacity exists, such is the influence of mental causes in inhibiting the action; nothing will so quickly restore self-confidence and remove the patient's doubts as a successful demonstration of his ability to perform the act.

I will add that the discovery of a practical mechanical treatment which gives satisfactory results in this class of cases, should be hailed as a new sociological epoch in modern life, as it practically extends the virile age of man at least ten years, *i. e.*, his family relations may be continued ten years longer than they otherwise could be; for be it noted that there comes a time in the life of every man when he needs a mechanical aid of this kind just as much as he does artificial teeth, reading glasses, etc., unless, indeed, he is resigned to the loss of his manhood.

In conclusion, it may be remarked that the skillful and scientific combination, in this class of affections, of mechanical and medicinal therapy, bringing, as it does, to our aid physiological remedies for internal use in conjunction with improved local applications and appliances, is a long stride in advance of the illogical, haphazard methods of treatment contained in the books, handed down and copied, with slight variations, by one generation of authors after another. It is certainly more in keeping with the progressive spirit of the age, and takes the treatment of this class of ailments out of the domain of irresponsible, experimental guesswork, and places it upon the same scientific basis as that of the ordinary ills of humanity.

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THE TRIAL-BALANCE OF THE HUMAN ECONOMY.

By Roger S. York, M. D., Boston, Mass.

[Written for the Medical Brief.]

Text-books, however well intended, sooner or later become but a conservative obituary of a dead and forgotten past. And yet the precepts and examples set forth in their pages are, unquestionably, the result of scientific research, along ethical lines, through the painstaking and perseverant efforts of master minds.

The science of medicine and surgery, however, has made such rapid strides in the last two decades that many of the text-books written within that period have become obsolete; while many of the text-books of today are so exhaustive, so thoroughly scientific and contain so many ambiguous statements that one gets but little satisfaction from their perusal.

In the present day and generation the mind of the average physician, while not lacking in receptivity, is so filled with mental pyrotechnics that he has not the time to decipher every fragmentary portion of the occult. It seems to me that the crying need is for a more discriminating technique in discussing the treatment of disease, and less of the scholarly effusiveness and of the lengthy, etiological exordiums.

It is not my purpose to criticise, but to call the attention of the profession to a plan of treatment for many of the so-called (I say so-called advisedly, for they are simply dietetic errors) diseases which afflict humanity as a direct result of indiscretion, and to describe the technique so clearly that "he who runs may read."

If the critics cry "Empiricism," so be it. As our first lesson in caution may come from the blind man, so may each and every one of us, if not too callow, learn something of that caution so necessary to the well-being of our patients through the instrumentality of empirical medicine.

In the physiological equation of life, excretion must equal ingestion and imbibition, less the extractive principles of nutrient values which are absorbed through the processes of digestion and assimilation. Whenever and wherever such a ratio of proportion exists, in the human economy, there should obtain, barring organic, structural changes, a normal standard of health. But excesses or deficiencies in any one particular destroys equilibrium, giving rise to pathological conditions. These conditions can be overcome only by making the physiological trial-balance of the excrementitious principles of the human economy, particularly those excreted by the kidneys.

The concrete body is but an intricate machine. Its units of heat and power are the products of combustion within its furnace. If that furnace is crowded beyond its normal capacity its flues become choked and its fire smothered. It may be stirred till it flares up with some future promise, but it eventually smokes and smoulders till it, often suddenly, goes out.

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The tide of humanity today is like a seething torrent. In the bustle and turmoil of business its pulses are throbbing like a trip-hammer. Its potentiality is raised to the extreme limit, and the vicissitudes of life are too prolific to endure.

The following poem (with apologies) written several years ago, prompted by social contact with the world, serves to illustrate the situation and to establish origin for the conditions which form the topic for discussion in this paper:

THE WEB OF LIFE.

This world is but a fleeting show
Where ghostly shadows come and go,
Their hearts aflame with passion's glow;
Ah, me!

How deeply in the mould of fate
Is fashioned life's deploring state!
Truth conquor's error all too late,—
Ah, yes!

Then deepening shadows mark the gloom
Around the cold and silent tomb;
The web is woven—closed the loom.
Ah, well!

A patient goes to his dentist, occasionally, for a careful inspection of his teeth. It is of much more vital importance that he visit his physician, at least once a year, for a thorough physical examination and an analysis of his urine. It should be the imperative duty of every physician to impress the importance of such a procedure on his patients as a prophylactic against possible contingencies which might arise and which might be averted by such an examination. It is a well-known fact, even among the laity, that the strongest physique may, without warning, succumb to the malign influence of a morbid fecundity.

While there is no exception to the rule to make the analysis of the urine the basis for treatment of all diseases, it is the object of this paper to discuss only those which are closely allied with the lithemic diathesis.

The office practice shows an abundance of typical examples of this class of cases. They are found, particularly, among the hustling business men and the much-mooted ladies of society. The former manifestly deny the laws of a normal existence, while the latter disregard entirely the laws of compensation. Both classes, however, become, as it were, physiological misfeasors, burdened with headache, vertigo, rheumatism, neuralgia, lassitude, insomnia, etc., etc. The remedy (God forbid!) lies not in snapshot prescribing.

The initiatory step in all such cases *must* be a thorough chemical and microscopical examination of the urine. This, I believe, should be done by a competent chemist, unless the physician has specially trained himself in that line. We are not dealing with fads and fancies, but rather with facts and figures. Human life is far too precious to be juggled in

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the psychological balance, or to be sacrificed through the diabolical artifices of chicanery. No one, calling himself a physician, has the right to guess or to stand idly by, with folded arms, and cry: "The Lord's will be done!"

Haig says: "In all cases of doubt, examine the urine. In all cases where you *think* you know, examine the urine."

Specific gravity, color, odor, reaction, sediment, albumen and sugar is a chain of physical nomenclature familiar to all, but to make the ends justify the means, in the trial-balance of the economy, full cognizance must be taken of the amounts of urea, uric acid, urates, phosphates, sulphates, chlorides, acetones, coloring matters, etc., etc., in order that an intelligent application of the treatment may be made in attempting to restore a normal equilibrium.

A true pathological condition may exist with a specific gravity of 1025, though such a specific gravity is within the normal range. A specific gravity of 1008 may not be pathological.

The term lithemia is rather a misnomer. Murchison coined it and applied it to a form of functional disorder of the liver, whereby proteid metabolism was impaired, while Da Costa, Osler, Shoemaker and others claimed, later, that much of the trouble was due to defective nutrition.

I shall not attempt to discuss etiology, but will venture an opinion, for what it is worth, that most of the so-called lithemic conditions arise from autointoxication which is the natural result of overeating, too rapid eating, eating improperly cooked foods, incompatible foods, etc., causing indigestion and malassimilation.

Whatever the cause, whether patent or obscure, it should be our duty to seek it out and to eliminate it, as quickly as possible, through the proper channels.

In uricacidemia we have a condition existing more often than is generally supposed. Excess of uric acid, in the human economy, is responsible for a large percentage of the little ills with which humanity suffers. There is a happy satisfaction, however, in knowing that a proper diet, of non-nitrogenous food, with plenty of good water, will cure the most of these cases, if not all, by restoring a normal balance in the secretions, and, happily, without the aid of medicine.

Oxyluria, another link in the lithemic chain, because it so often accompanies it, is a condition about which very little is said in the text-books. Its etiology is obscure, though it is claimed, by some authorities, to be due to perverted nutrition, imperfect oxidation of sugars, starches, etc., and bacterial fermentation in the alimentary canal.

The dietetic treatment of oxyluria is just the reverse of the uric acid condition. Patients should be fed on a meat and fish diet free from fat.

The following cases will serve to typify the conditions described above, and, in order to more fully emphasize all that has been said con-

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cerning the same, I will endeavor to give, in two of them at least, the treatment prescribed, verbatim.

Mr. N., aged forty-eight years, proprietor of a confectionery and periodical store. Family history and physical examination negative. Personal history: Patient came to me complaining of a severe frontal headache, of almost daily occurrence, covering a period of eight or ten years. Had been operated on for deflected nasal septum with only temporary relief.

Analysis of the urine showed a specific gravity of 1036, no albumen, no sugar, but a heavy deposit of uric acid crystals were observed, microscopically.

A typewritten copy of the following was given to the patient with instructions to obey the same to the letter:

DIET LIST AND GENERAL INSTRUCTIONS FOR MR. R. H. N.

Take a teaspoonful of Carlsbad salts in a small glass of water, then slowly sip a large cup of hot water the first thing on rising in the morning. In a few moments take a brisk, dry rub with a coarse bath mitten or towel, over the whole body; rubbing till a good glow is produced on the skin. Follow this with a sponge bath of tepid sea-salt water in a saturated solution. Dry by mopping, instead of rubbing, in order to leave a deposit of salt on the skin. With head erect and shoulders thrown back, take deep breathing exercises, before an open window, for five minutes at a time night and morning, in proper weather. Get all the outdoor air possible forenoon and afternoon. Always sleep on the right side and in a well-ventilated room, with the minimum of clothes necessary to keep warm. Never exercise to a point of fatigue. Never eat when tired, always rest from twenty minutes to a half hour first, in a reclining position when convenient. Drink from eight to twelve glasses of good water, hot or cold, during the day and evening, in small quantities at a time, slowly sipped. Be regular in all your habits. *Eat slowly; masticate thoroughly and do not wash the food down.*

Select from the following diet list that which best agrees with you:

Breakfast.—Oat meal, cracked wheat or most any of the cereals with a little milk or light cream and salt, but without sugar. Broiled white-meated fish of any kind, honeycomb tripe, pigs' feet. Eggs, occasionally, if they agree, in any way except fried, soft cooked.

A baked potato may be taken with this meal. Plain, stale or French bread or plain toast. Eat sparingly of butter. After all through eating, a small cup of weak tea, cocoa, made from cocoa nibs; a cup of half milk and half hot water or a glass of cold water may be slowly sipped.

Dinner (preferably in the middle of the day).—Plain broths, such as barley, chicken, lamb or mutton, in moderation. Raw oysters and clams,

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if they agree. Boiled or broiled white-meated fish of any kind without rich sauces or gravies.

Roast chicken, fowl, game of any kind, all sparingly. Spinach, dandelions, beet tops, water cress, celery, new string beans, young native or French peas, young onions well boiled, cauliflower, artichokes, summer squash, plain boiled rice, with milk, but no sugar; gelatin jellies unsweetened.

Drinks and bread same as above.

Supper (not later than six o'clock or half after).—This should be a light meal and should consist of stale bread and milk or crackers and milk or plain toast and vegetable salad, without oil; white-meated fish, broiled or boiled, or dropped eggs on toast (occasionally) with stewed prunes cooked without sugar.

Drinks same as breakfast and dinner.

If hungry between meals a glass of milk and a graham cracker or slice of zwieback may be taken. Eat meat once a day and only in small quantity. A good plan to follow would be to eat meat once a day, fish or eggs once a day and bread or crackers and milk once a day.

REPORT IN ONE WEEK.

No medicines, except the Carlsbad salts, were used in this case, and the patient made a complete recovery in about eight weeks. *How simple!*

A more liberal diet was allowed in this case than can be used in many others of a similar character. It is interesting to note, however, the result of hygiene and discipline. I believe it to be often the case, with many of our patients, that good generalship is what they most need when they have lost moral control of themselves.

Mr. H., aged sixty-five years, engaged in literary pursuits. Came to my office with anxious mien and was sure that he had cancer of the stomach. Family history negative. Personal history good, as I had known him for years. Physical examination disclosed a tenderness over the epigastrium which was painful to pressure. Heart and lungs normal. Bowels irregular and full of gas. Often took whisky for lunch instead of food, then ate a hearty dinner at night.

Analysis showed high specific gravity with a complete unbalancing of the excretion of solids.

Treatment practically the same as the previous case, and four powders of the subnitrate of bismuth, of forty grains each, were prescribed, to be taken as follows:

Place one powder on the tongue night and morning and wash down with a large cup of hot water; then lie on bed or couch and slowly roll from side to side two or three times. Eat nothing for one hour afterward.

This patient's "cancer" disappeared inside of a week, much to his relief and to my satisfaction. In a short time he was able to eat anything

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that he desired, by being careful and prudent, and has had no return of his trouble since to my knowledge.

The foregoing represents the class of cases which may be called lithemia, lithuria, uricemia, uricacidemia, or any name which will convey the idea that uric acid is responsible for the conditions which arise.

The following cases are good examples of the condition known as oxyluria, and which, in the opinion of the writer, can not be discovered and successfully treated except by the trial-balance plan:

Miss P., aged nineteen years; occupation, paper-box maker. Family history neurotic and dyspeptic. Personal history, had only children's diseases up to the time the trouble began, for which she sought my advice. Two years previous she felt pains in her head and back which soon became of daily occurrence; then a fine rash developed round her right side and extended down the inner aspect of the right thigh, which itched very badly, especially at night. A general pruritus followed, which, with pains through the hepatic region, made her life miserable. She had nervous (?) dyspepsia, anorexia, dysmenorrhœa, and, as she expressed it, "could sleep all the time." She had all the above symptoms, in varying degrees of intensity, for two years, during which time she had been constantly treated for dyspepsia.

Analysis of the urine showed a very heavy deposit of calcium oxalate crystals with disproportionate balance of urea, uric acid, phosphates and sulphates.

As the same general hygienic rules were applied as in the case of Mr. N., it will not be necessary to repeat them here. The following represents the diet and medicine used in this case:

Boiled or broiled white-meated fish of any kind, broiled tender steak, lamb chops, game of any kind, honeycomb tripe and pigs' feet; lean bacon and ham occasionally.

Either celery, lettuce or baked potato once or twice a week. Plain, stale bread, French bread, graham bread toasted. Plain boiled rice with milk, but no sugar; gelatin jellies or stewed prunes without sugar.

Glass of milk, a cup of half hot water and milk or a glass of pure cold water may be slowly sipped after all through eating.

Select from the above for any one of the three meals, but always make the last meal, at night, the lightest.

Dilute nitro-muriatic acid was given in fifteen-drop doses in a wine glass of water, fifteen minutes after meals, to be repeated in an hour or less if any distress was felt in the stomach.

I saw this patient again in ten days, when she informed me that all her symptoms had disappeared inside the first week. I did not ask her to call again, for I felt that she was all right. A subsequent report of her case, furnished by her sister, proved that I was not mistaken.

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Mr. E., aged thirty-four years; occupation merchant. (Oxyluria.) Characteristic symptoms; anorexia and lassitude so pronounced that he was obliged to go away to a camp in the woods, where he grew worse, and, after returning home for a few days, he came to Boston, from his home in Maine, to consult me in regard to his case.

He had had the trouble for two or three years, by spells, obliging him to neglect his business quite a bit during that time. The only treatment that he had received was for dyspepsia.

The same line of treatment was carried out as in the previous case, with the addition of drachm doses of tincture of nux vomica and tincture of gentian, in the proportion of one to five, respectively, in a wineglass of water before meals.

He reported in two weeks, by letter, that he was attending to business all the time, eating three square meals a day and was feeling better than he had felt for years.

I might go on citing cases *ad infinitum,* but it would simply be a repetition of that which has already been said on the treatment of these most annoying cases.

In defense of the position which I have taken, I will summarize the technique of the trial-balance of the human economy about as follows: Examine the urine; place the patient on such diet as will balance the excesses and deficiencies of the solids excreted up to normal. Give plenty of good water, at proper intervals, for its solvent action (in cases where the excretion of solids is very low give distilled water for a time); instruct the patient as to proper exercise, both in and out of doors; lay down certain hygienic rules, adapted to each individual case, and see to it that the patient follows them to the letter. Use medicines only when absolutely necessary and in the smallest quantity that will control the condition, and have the patient report at stated intervals for inspection and further instructions.

We should try to educate our patients up to a better understanding of food values. We should impress them with the fact that the average adult eats too much and too fast; that temperance in all things begets good, while overindulgence begets evil. We should tell them that a rigid discipline is necessary in the war against disease, and we should endeavor to get their confidence to that end. We should call their attention to the fact that success or failure depends largely on themselves and that "eternal vigilance is the price of liberty."

In conclusion, I will simply say that I claim nothing new under the general subject of diet in disease. Its practical application, however, based on the physiological balancing up of the human economy, through the influence of diet on the chemical excretions of the urine, is certainly unique, if not original, and is worthy of trial by any one who desire to justify the claim made for such a line of procedure.

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PAGES OF EVERY-DAY LIFE.

By Charles S. Moody, B. S., M. D., Mullan, Idaho.
Surgeon Snowstorm Mine.

[Written for the Medical Brief.]

Ah, the wonderful dreams that filled our student days of the great golden future that was to open up before us when we were launched like so many vessels out of the port of the dear old college, and began buffeting the waves of fortune upon the sea of professional life! My life has been made up largely of dreams, of which only too few, alas, have ever come true. Yet a few of them have; enough, perhaps, to cause me not to regret the dreaming. When I was struggling along away back yonder, looking anxiously forward to the time when I should be able to affix to my name the cabalistic letters that would constitute me one of the elect, I recall how vividly I envied those other happy mortals upon whom Fortuna had shed her radiant smiles; those who were not compelled to toil and save night and day, and deny themselves oftentimes the very necessities of life that they might accumulate sufficient funds wherewith to push forward in pursuit of learning. How many of you were compelled to saw cordwood, split fence posts, chop slabs in a saw mill, raft logs on a river, mine coal, herd cattle for the means to finish your education? How many of you who were so situated often felt tempted to throw the whole thing overboard and call it quits; but there was always something inside you that prevented your doing it; something that kept you struggling and toiling upward toward a goal, what though it seemed that the light would never penetrate the clouds of darkness and poverty that encompassed you?

To all such I can stretch forth the hand of sympathy and fellowship, for it was so that I toiled and watched the little hoard of dollars grow—how very, very slowly they grew—until I had barely enough, with the most biting economy, to carry me through. How I can congratulate a man with a wife, during such a trial, as was my wife. Do you realize that a woman never loses her courage in times like these? Many and many a night, when all looked black and gloomy, the little woman stood by my side, looking with the eye of faith in me, and love for me, when I could see the bright gleam that betokened the dawn beyond the night cloud. It was her faith, her love, her sublime courage, that buoyed us both up with the belief that it would all come out as it was in our dreams. In addition to a wife like mine, thrice blessed is he who is the father of a baby. Do you appreciate that that historical jaunt of the Israelites through the furnace was nothing compared to what you would do for that baby? A squeeze of a pair of tender arms about your neck will screw the courage of any man up at about three hundred to the square, and keep it there.

When I finally got enough together to meet my modest needs, I set out for college, with her waving a brave farewell from the depot platform.

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She could not go, for there was not enough for both. Hers was the harder part. To remain at home in the country, with nothing to occupy the time, and only to wait, was infinitely more difficult than to be in a city where all was noise and stir. The city was strange to me at first. I had never before been in a great city, and everything confused me. I was half afraid of the noise. I recall, with delight, the chance that presented itself for me to wait on the table in a cheap eating house, and thus earn a small sum with which I bought much-needed books. I have those old books yet, and they are among my treasures—no money could buy them.

All through my college days I dreamed the beautiful dreams. Wealth, with all its allurements, should be mine. Fame should come and perch upon my banner. Learning vast should be my portion, and all humanity should be the better for my having lived. I read of the deeds of healing done by the illustrious ones of our profession, and, in my dreams, I emulated them. The poor, the sick, the lame, the halt, the blind, should never appeal to me in vain. In the Elysium that I had painted upon the canvas of the future, with colors stolen from the hues of the rainbow, there should be no envy, no jealousy, no striving for first place. Those for whom I toiled should look to me as their guide, counselor, friend. They should come to me with their griefs, and I should assist in assuaging them. My brethren in the profession should be my firm friends and I theirs. The beautiful lessons of the code should be our lessons, and we should live them in our everyday life. Yes, it was a world of dreams, and they are still but dreams, for so few; oh, so very few of them have ever reached the material stage. I am now a middle-aged country doctor, my hair has already begun to show the path made by the frosts of Time, and I begin to feel the need of aids to vision when I read long at night. I am slightly rheumatic in damp weather, and have to protect my throat when I go out at night. I have failed to outstrip my brother in the race for gain; my opportunities for doing great good have never materialized. My friends are as the friends of all other men; some true, many, many false. My professional brethren have not always treated me according to the rules laid down in the code of ethics, and sometimes I have retaliated in kind. Yet there have been compensations for the dreams that came not true. One of them I will relate to you, in the hope that you, too, my brother, who, maybe, had dreams as well as I, may look beneath the grime and greed of this world and see some things in your career that are not covered with the slime of selfishness, as most things here are.

Fate, that old jade, delights to play us most scurvy tricks at times. For some she spins the wheel of Fortune until it halts at the zenith, others she spills into the nadir of adversity; and none may say why the one and why the other. Me, once upon a time, not long ago, she dumped into a mining town. The town lies in a narrow river valley, with great rock-ribbed hills towering almost to the skies on every side, shutting out the

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sun, save for a few hours at midday. Within the deep recesses of these gaunt, scarred hills, lies untold wealth in silver, lead and copper. Far above the town, almost at the summit of one of the highest mountains, lies the great mine of which I am one of the minor factors. A narrow-gauge railroad clambers up the mountain side, creeping around the shoulders of the hill; ever creeping higher and higher, until finally it pauses at the yawning mouth of the mine, just beneath the great, cavernous ore bins that hold almost the wealth of an empire. Below the town, and at the lower end of the track, stand the immense mills that are busy, all the year, in eating the ore-laden rock, masticating it between massive steel jaws, and sending it forth into the separators to be rattled, and shaken and churned until it gives up its burden of precious metal. Every hour the little, yet powerful, engine toils up the steep track, pushing in front its train of cars laden with timbers for the mine; then it clatters down again, leading the same cars laden with ore for the mill.

There is no more hazardous occupation than that of underground mining. What though the mining companies take every precaution, and throw around their men every safeguard, still every year hundreds of miners are maimed for life, or killed outright. Tons and tons of high explosives are used in blasting down the ore-bearing quartz. Sometimes one of these blasts fails to explode, then it becomes the duty of the miner to drill out the powder and recharge the hole. The miner goes about this task very much as you would about making your round of daily calls. It is to him only an incident in his round of labor. So long as luck favors him all is well, but some day there is an explosion, and then a narrow grave on the hillside, or, at best, a sojourn in the hospital, from which he emerges a broken and maimed being, doomed to spend his days in misery and pain. Dark and treacherous holes exist throughout the mine. In the half-light of this underground world some miner stumbles, and his mates gather him up, perhaps, hundreds of feet below, an inert mass of bruised flesh and broken bones. A great mass of rock, loosened by the jar of the blasts, lets go its hold upon the wall and comes hurtling down the stope, leaving death in its wake. Death lurks in a hundred forms in the deeps of the mine. The miner walks hand in hand with him daily, and grows callous, just as do soldiers inured to battle.

It is the fate of our profession to look upon death in many forms, and we, too, grow callous as do the soldiers. I have never yet been able, however, to grow callous to the visitation in the mine. There is something so gloomy about death there in the gloom and grime, that it sends a thrill of pity through my heart.

Just the other night I wished that those of my professional friends who are permitted to make their round in a motor-car or behind a fast pair of horses, might have been with me upon one of my missions of

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mercy. That you may, in some degree, appreciate what the "other side" is like, I will describe to you as well as I am able, the trip that was mine.

It was growing dark. I was just sitting down to my evening meal, and was rejoicing in the prospect of being able to spend an evening by the cozy fire with my loved ones, when the telephone bell set up its insistent jangle. I was connected with the mine, and found myself in conversation with the shift boss: "Catch the last trip up, and come at once," was his message. Well I knew that the message was urgent. No common accident would have induced the shift boss to telephone me that inclement night. Somewhere in the deep recesses of that immense subterranean burrow lay a man, and, perhaps, several men, moaning out their lives in the darkness. That he was not dead was evidenced by the message. Had he been dead, there had been no call for my services. Humanity dictated that I should go at once. I snatched a few bites of food and drank a hot cup of coffee, then, donning my furs and grasping my emergency bag, plunged into the night. It was snowing as it only can snow here in the higher range. Great white feathery flakes came floating down out of the Stygian gloom, and wrapped the earth in a white pall. The little engine was puffing around the last curve below town on its down trip. I must needs hurry, if I would ride back to the mine on it. When I reached the ore-bins I found the engine stalled, and the day's work completed. They were not going back to the mine again that night. It was possible to get them to run the engine out and take me up, but it would have entailed the unwinding of so many miles of red tape that I resolved to make the journey on foot. Divesting myself of my fur coat and gloves, and slinging my bag over my shoulder, I plunged into the gloom. One by one the lights of the mill glimmered and flickered out. The steady thump of the ore crushers grew fainter and fainter, until there was silence. Such silence as is only known in the mountains when the snow is falling. As I rounded the first curve the electric lights of the town lay far below me, a faint spot of hazy light in the fog of snow, visible, and no more. These, too, soon faded and left me in the immense darkness again. Higher and higher I climbed up the mountain side, until I was above the storm clouds, and a wintry moon struggled through the haze and lessened the intense darkness. Looking down from my lofty position I could see the snowstorm in great white billowy masses rolling down the narrow valley between the hills. Then, the last mist fled before a night wind that was chill from off the mountain peaks, and the hoary tops of the range sprang into view with startling clearness, as though some gigantic showman had projected them upon a canvas for a Titanic audience. How somber and vast they seemed when viewed thus, and how "pigmy" man by their side—man, who, with his powerful engines of destruction, was tearing great gaunt holes in their sides, burrowing along the mineral veins and extracting the precious ore that had lain there since the beginning of Time.

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Miles above the town, upon the bald shoulder of the mountain, perched the powder-house, with its warning legend: *"Danger!"* I paused to rest, and, resting, reflected, what would be the destructive consequences should some person touch a match to a fuse connected with the tons and tons of Hercules stored in that iron structure. Then I went on to where the track crosses a deep canyon on a flimsy wooden trestle, that seemed ridiculously inadequate to sustain the immense weight that passed over it every day. Again I thought of what would happen should a rail become misplaced. I could hear the gurgling of the waters of the mountain torrent hundreds of feet below, as though they were chuckling at the idea, some day, of the engine and its train of cars plunging into that abyss. On a little way around the curve, and I could see the lights at the ore-bins, glimmering in the distance like stars in an autumn sky. Then the head house loomed gigantic and black out of the darkness. Now, I could hear the steady thump of the air compressor that pumped life into the depths of the mine, and the roar of the smith's forge, and the ring of the beaten metal. At length the mouth of the mine itself yawned, and my journey was all but at an end.

At the entrance of the mine stood several men, their lighted candles flaring in the air-current and lighting up the scene weirdly. Half a mile back in the tunnel lay a man crushed by the falling of half a ton of rock. We must hasten and reach him. In another moment we are seated in an ore-car, and are being rapidly hauled into the tunnel. The tunnel is not direct, but follows the windings of the ore body. By and by we reach a point where the main tunnel branches into a perfect labyrinth of underground streets. I thought how easily a man unacquainted with the work might become hopelessly lost in the maze. Work was going on as though nothing had happened. Far away in the distance sounded the blasts like the report of embattled cannon. It was a battle; a battle with the Titanic forces of Nature. Out of various holes in the rock the laden cars came rumbling toward us, to disappear in the darkness. We reach at last a point where all the tracks seem to come together. I hear the puffing of the hoisting machinery as it labors at winding its long steel cable about the big iron drum. Water from the roof falls over us in a shower. We seat ourselves in the iron cage, the shift boss rings a bell on the wall, and we begin to drop rapidly into darkness. Down, down until it seems as though we are never to reach bottom. The car stops with a bump, and we alight from it and stand upon the floor of one of the lower levels, hundreds of feet from the surface. Another short walk and we are at the scene of the accident. The injured man is lying upon a hastily-improvised couch made from the jackets of his fellow workmen. He is moaning with pain. A hasty inspection tells the story. The great weight, in falling, has rolled across his legs in such manner as to crush them out of all semblance to human appendages. To even the uninitiated it is evident that an

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amputation is necessary. It is not now the problem of amputation that troubles me so much as that of how to get him to a place where the surgery may be done. Our good old Spencerian copybook told us something about "necessity being the mother of invention." The doctor, out here in the West, without adaptability, is a ship at sea without a rudder. There are no instrument-makers here to whom you can appeal in times of need who will furnish you with something that will just fit your case. No, out here we have to make it ourselves, and what's more, have to know how to make it. There is no doubt that there are many of you who would crack a very superior sort of smile at some of the rough appliances we are compelled to use, but being honest men, you would not smile at the results that we attain, and that's what we are all after—results. In this instance I made, in a very few minutes, a quite efficient set of fracture boxes out of an empty dynamite box. Not very elegant in design, perhaps, but very effective in operation. After immobilizing the limbs, the next problem was to get the man to the surface. This was accomplished by taking a piece of lagging timber two by twenty-two inches, six feet long, and securely strapping the patient to it. Standing the man upright in the "skip," he was hoisted to the upper works and loaded into an ore-car. You will appreciate the fact that all this was not done without great pain to the patient, but he never murmured. These men are not of the murmuring kind. Grinding his teeth together to choke back the moan that was endeavoring to escape from his lips, he lay with anxious eyes and watched the manipulations necessary to his transportation, and when his friends hoisted him into the ore "skip," he even smiled as he bade them good-bye. The gray dawn came creeping down the mountain, and the little engine came creeping up at the same time. My patient was lying by the fire in the blacksmith shop mercifully asleep, as the result of an hypodermic. Gently we placed him on the engine and lowered him down the hill, where a conveyance carried him to the hospital. By noon he was lying in his cot in the ward minus two legs, but smiling and cheerful, optimistic in his belief that he would get well, and be out soon. We will leave him in his bed under the care of a white-capped nurse, who will attend him as carefully and lovingly as though he were the heir to millions instead of a poor workman from the grime of the mine.

DISPENSING SYNTHETICS IN TABLET FORM NOT ADVISABLE.

Synthetics, such as sulfonal and acetyl-salicylic acid, are commonly administered in tablet form. Dr. W. Cohn, in the *Medizinische Klinik*, considers this practice objectionable, for he has found that patients void these tablets unchanged, so that they might just as well not have taken them at all. He states that the modern hypnotics act more promptly when administered in powder form, mixed with water.

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THE APPENDIX THAT HAS BECOME A FOREIGN BODY.

By Herman E. Pearse, M. D., Kansas City, Mo.

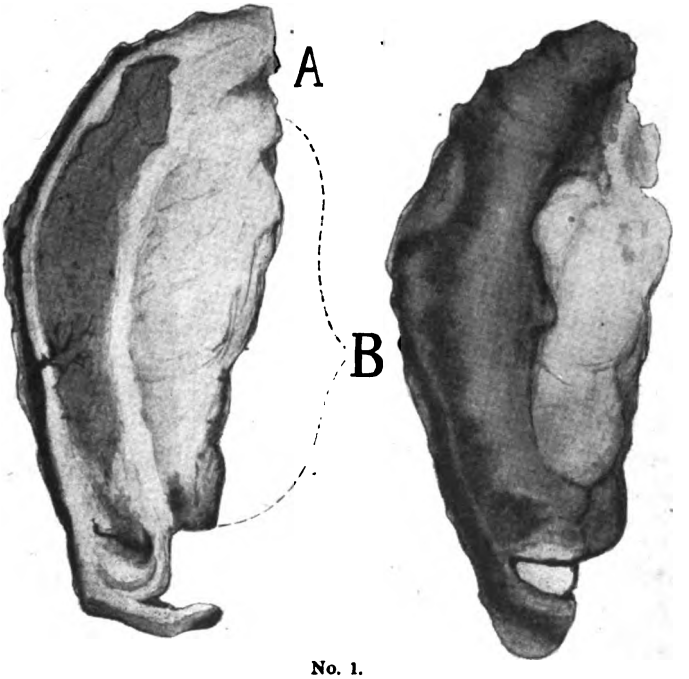
[Written for the Medical Brief.]

When we consdier the question of when to operate upon cases of appendicitis, we are met with answers from two groups of men, and the number of each group is losing to the other constantly. The opinions of men will be changed by added investigation.

One group is convinced that in selected, given cases, delay is the means of lowering the death rate—and lowering the death rate is what we all strive for. The other group is satisfied that delay holds more danger than operation in all cases, and that the lowest mortality is obtained in every case by operation as soon as the diagnosis can be made, and a surgeon found who can do the operation properly.

Without presuming to decide which of these two groups is right, and without even declaring my own position, I submit the following cases and specimens:

Case 1.—Both sides of the appendix are shown (see illustration). Patient was an elderly man, who had had some four or five attacks of appen-



No. 1.

dicitis. At the present attack he did not recover, as had been his custom in the past. but continued from day to day with increased temperature and spreading inflammation. He was brought to the hospital and the abdomen opened. Peritonitis was found that was diffused over the lower one-

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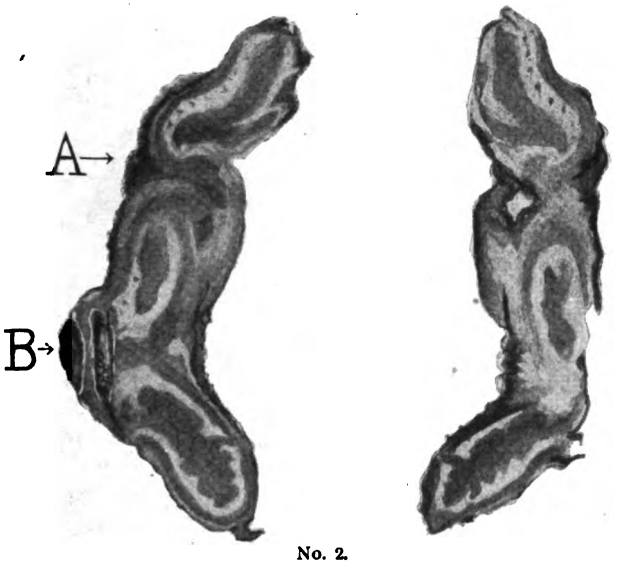
third of the abdomen, and spreading faster than nature could prepare her defenses. The appendix was successfully removed and the patient recovered. Examination of the illustration shows the following points: At point A, complete line of obliteration. B shows a mass of granulation tissue. It will be noticed, also, that the walls of the appendix approximate one-eighth of an inch in thickness, and that the outer surface shows enlarged vessels, and the various pathological evidences of chronic infectious inflammation. No matter how frequently this man might have recovered from individual attacks, he was sure to continue having such attacks and, sooner or later, one would find him with his resistance enough below par that death could claim him.

Case 2.—This patient was a resident of Kansas City, a stock man. He had had one previous attack of appendicitis, leaving a sore abdomen since



No. 2.

that time. He had been sick with appendicitis about a week when his physician was hastily summoned to find him in collapse, with distended abdomen, thready pulse, cold extremities, exceedingly high temperature, severe vomiting—a picture of rupture and onset of peritonitis. I was telephoned for and had the patient removed at once to St. Luke's Hospital. The abdomen was opened and this specimen removed. (Illustration No. 2.) The very thick walls of the appendix can be observed. At A-B it will be noticed that the lumen of the appendix was interrupted by a hole bored through into the bowel. It is impossible, in considering this specimen, to suppose that such a mass of infiltrated tissue could ever have been absorbed. It would simply cause one attack after another, sure in the end to do what it did in this attack, threaten the man's life.

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Case 3.—(Illustration No. 3). This appendix contained fecal concretion. The attack began when the concretion ulcerated through the wall of the appendix. There was a history of previous attack, and sudden beginning of peritonitis, with shock and vomiting and intense pain, symptoms, in fact, as severe as though the man had been shot. The abdomen was hastily opened and a quantity of free serous pus was found in the peritoneum. There was, of course, practically little, if any, walling off. The

No. 3.

appendix was removed, the peritoneum carefully cleaned, and the patient recovered. Questioned as to his previous condition, the patient stated that he had been troubled with indigestion and frequent colicky pains, not particularly referred to the right side. It is probable that this foreign body had remained for years imbedded in the tip of his appendix, slowly working its way through the wall, and is another proof of the statement that "every case of chronic indigestion should be investigated for trouble outside of the stomach."

Case 4.—This specimen is interesting from the fact that it was found in a five-months-old child, which had been subject to colic ever since its birth, and only recently did the colicky pains assume the character of appendicitis. When the physician found the symptoms of appendicitis he sent the child from its home in Henry county to me. The abdomen was promptly opened during the interval between attacks of colic. The speci-

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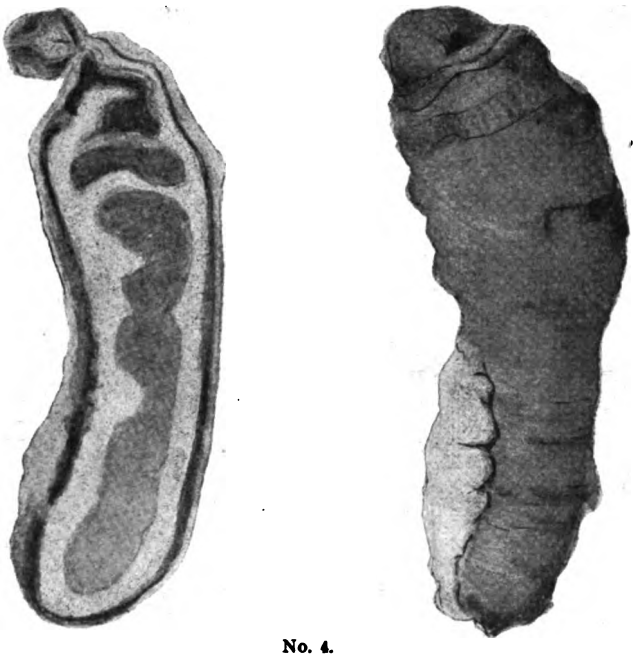
men tells its own story. The ecchymotic space and enlarged vessels, thick, indurated walls, and large patches of granular tissue, and other evidences of severe infectious inflammation, chronic in its nature, show but too



No. 4.

plainly that the material for repeated attacks was stored up here, and this appendix had become a dangerous and threatening foreign body. The child recovered, and went home at the end of three weeks.

Case 5.—Young man of Mound City, Kas. History revealed attacks of indigestion, occasionally indigestion with colicky pains, and, at rarer intervals, colic with swollen abdomen, and fever, with usually one or two days in bed. He had taken dozens of bottles of medicine, mostly of the pain-killer type, and had been treated by several physicians, until his present physician made a diagnosis. The present attack was caused by an effort to perform some gymnastic exercises on a turning pole, in an effort to prepare himself for taking part in an entertainment. The inflammation, in this case, rapidly spread over the entire abdomen; the rupture of the appendix occurred at the point A, and from that point the sinus led down to the concretion which is shown in the cut surface at the point B. Although the case gave little promise of success, owing to the extremely bad condition of the patient, operation was quickly done; appendix removed, the pus carefully cleaned out from entire peritoneum, requiring more time than it is safe to give in these cases, and the abdomen drained by two counter-incisions, and the patient placed in the Fowler position. He made a slow and tedious recovery, but after

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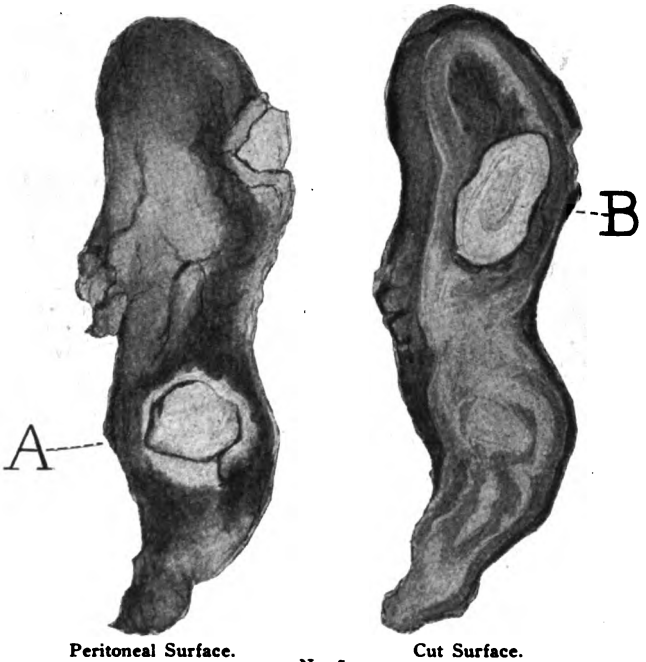
the first two weeks convalesced rapidly, and at present is working as a mail clerk on one of the trains leaving Kansas City.

This specimen, on examination, shows the same points displayed so prominently in the other. The heavy, thick walls, the large areas of soft granular tissue, fecal concretion imbeddded in the lumen of the appendix. The size of the appendix, in this last case, is probably due to the fact that it was removed in the midst of an acute attack, although investigation, like the others, shows the power of the appendix to become a menacing foreign body in the peritoneal body.



Peritoneal Surface. Cut Surface.

No. 5.

Now in each of these cases there is such a degree of infection, fed by such a virulent mass, that resolution was impossible. The infection was simply pushed and forced further and further. When one line of defense was formed, it was only a question of hours until it burst, and the entire area of peritoneum invaded.

As to the question of waiting, how do we know that any given case is not of the nature of this specimen? How may we tell, then, that it will subside, and when may we feel safe in waiting, since all admit the necessity of operation under such conditions as those here illustrated? Why promulgate a medical treatment at all? Why waste time trying to subdue processes that can not be subdued? Why not operate upon each case that we meet as soon as favorable conditions can be secured for doing the operation?

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CONTRACTED PELVIS, THREE DELIVERIES, TWO ABORTIONS, REPAIR OF RESULTING LACERATIONS.

By E. S. McKee, M. D., Cincinnati, Ohio.

[Written for the Medical Brief.]

Mrs. B., German, lived the life of a German peasant, working in the field till she reached the age of eighteen years, when she came to America, married and settled in "Oklahoma," a suburb of Cumminsville.

September 15, 1892, she was taken in labor at the eighth month, and was attended by a midwife. After being in labor twenty-four hours, five hours after the water broke, the midwife, not being able to deliver her, called in Dr. Rowe, who applied forceps and succeeded in delivering her, after about an hour's work. The child, a girl, was born dead.

December 29, 1893, the patient was taken in labor the second time. Dr. Fultz was called, and on the 30th called in Dr. Schwab. They were unable to deliver by the forceps, so turned, but were still unable to deliver by the forceps on the after-coming head, the head remaining above the pelvic brim. Dr. W. I. Goodin and myself were called later in the day. Dr. Schwab again used the forceps, but was unable to deliver the child, which was dead. I delivered the child by passing the blunt hook up alongside of its head, still above the pelvis, till it was on the temporal bone; then fixing the head by traction upon the lower extemities, I turned the blunt hook at right angles on itself, thus crushing the hook through the temporal bone and into the cranial cavity. Some of the brain oozed out, and the hook took a firm hold upon the bones of the base of the skull. A moderate amount of traction delivered the child. The patient was in a very exhausted state, having been in labor twenty-two hours, ten hours after the breaking of the waters, having been several hours under chloroform. After a severe illness of three or four weeks she recovered under the care of Dr. Fultz.

August, 1894, eight months after the second delivery, the patient came to my office, this being the first time I had seen her since delivery. She was in a pretty bad condition. Laceration of the perineum, with resulting cystocele and rectocele, large, deep, bilateral laceration of the cervix; marked retroflexion of the uterus, which was crowded down behind the sacrum on the rectum and considerably enlarged. There were also some remains of pelvic inflammation. After frequent applications of boroglycerine tampons in the genupectoral position and manual replacement of the uterus, the patient was much improved.

January, 1895, she came to my office, having missed one menstruation. I made an appointment with her at a later date, and asked Dr. C. D. Palmer to see the case with me. We measured the patient's pelvis externally, with the following result:

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One spinous process to the other, 25.5 cm.; crests of the ilium, 33 cm.: pubes and sacrum, external conjugate, 13 cm.; internal digital measurement showed the conjugate about the same, *i. e.*, about 2.1 inches.

Dr. Palmer did not advise an operation, as I had expected him to do, but recommended the induction of labor at the eighth month, giving it as his opinion that a living child could be delivered at that time. I thought had he been with us at the last delivery he would have advised differently; so did the patient. However, his advice was followed, so far as I was concerned; not so, however, with the patient. Though anxious for children, she did not believe she could live through another delivery, nor did she think she could bring forth a child alive. She therefore applied to two other physicians, who agreed to induce an abortion. They worked with her for five weeks without being able to accomplish the desired result. She then gave it up and went on through gestation fairly well, though a part of the time she was not able to walk very much. July 6, 1895, I was called to induce premature delivery at the eighth month. While endeavoring to separate the membranes with the solid bougie, I punctured the bag of waters. During the next day the pains were good, and on the second day, about nine A. M., I applied the forceps. After an hour's hard work, I failed to make any progress. Reluctantly I decided to turn, which I would have done sooner had I not a vivid recollection of our experience at the previous delivery. Turning was done easily and quickly, and a large child was delivered, which lived for but half an hour. Had I turned sooner, and not dwelt so much on our former experience, the child might have been living today, but the forceps were applied again and again, and used with desperate and prolonged force. Of course, at the present day, a Cæsarian section would have been considered.

The patient spent two weeks in bed, with slight rises of temperature, but had a satisfactory recovery. Several times during the fall and winter she appeared at the office, and after a short course of tampons, would improve. She became pregnant before the year was up, and on consultation with Dr. Goodin, an abortion was induced at about the third month, which went through without event. She grew tired of recurring ill-health, and being scarcely able to walk asked for an operation. I did not encourage her, for I feared that on account of the extensive laceration of the cervix, almost the entire posterior lip being gone, and the marked retroflexion of the uterus, that an operation would not be a success. She insisted, and I arranged to operate.

The operations necessary were, trachelorrhaphy (bilateral) colpoperineorraphy, and anterior colporraphy. Those present were Drs. W. I. Goodin, C. J. Lasance, and J. W. McKee.

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The patient had been carefully prepared by the preliminary treatment of diet, physics, vaginal and rectal injections. She was anesthetized with chloroform, and the trachelorrhaphy performed first. A great deal of cicatricial tissue was removed, requiring that we go high up into the angles of the tears. Here I feared considerable hemorrhage, but did not find it. The anterior and posterior lips were denuded, coapted and sutured without special event, leaving a small cervix. The colpoperineorrhaphy was next denuded in the ordinary manner. Last the anterior colporrhaphy, then the sutures were passed. The operations, naturally, lasted a long time, and the patient was very much prostrated from prolonged chloroform anesthesia. The prostration lasted the first twenty-four hours, during which time the pulse ranged as high as one hundred and twenty to one hundred and forty per minute. She then regained her strength and went through the next four weeks without event, and recovery, though gradual, was good. The result of the different operations was excellent, the cervix was very small and pointed, but menstruation was normal and without pain, and she could walk with comfort.

Sterility after this operation was rather expected and hoped for, but in little more than a year she became pregnant, and on consultation another abortion was decided on. This was, like the one attempted by my two colleagues, very hard to accomplish. I introduced the sound a half-dozen times, turned it and allowed it to remain *in situ* for five or six hours, without any result. She did not abort till the fourth month, *i. e.*, not until the uterus, which was packed down behind the sacrum, was obliged, from its increase in size, to unpack itself and move upstairs into larger quarters. The abortion went off safely and without special trouble. Since this time, now ten years, she has not conceived.

It is my wish, in closing this report, to perform an act of justice to the patient, which is so often overlooked. If ever a woman deserved honorable mention, this one surely does. Three times she passed through the most desperate labors, in two of which she knew too well what she was to expect; those long weeks in bed, those months of ill-health between labors, that series of operations at one sitting, and the many weeks of weary waiting in bed, that all might heal. Never a murmur, never a complaint to doctor, nurse or husband. Always cheerful, always hopeful; the bitterest dose, the sharpest pain, met patiently and promptly.

All she had to show for it were three tiny graves on the hillside, a half-dozen large doctor bills, all properly receipted, and a mother and wife who has undergone untold sufferings, but is deeply grateful that she is still allowed to live. Her life is now one of peace, prosperity, rest and happiness. And so may it continue.

Grand and Nassau Sts., W. H.

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DIAGNOSIS AND TREATMENT OF MALARIA IN YOUNG CHILDREN.

By Hermon Hawkins, M. D., Jackson, Tenn.

[Written for the Medical Brief.]

One with only a text-book knowledge of malaria would be puzzled if called to diagnose this disease in a baby and treat it. Malaria is nearly as variable in its manifestations as hysteria, anyway, and in babies the symptoms are even more indefinite. The usual clinical picture of intermittent malaria is plain and clear cut—headache, backache, general feeling of lassitude, with gaping and stretching. A cold, shivery stage, accompanied by nausea and vomiting, gradually changing to hot stage, with continued nausea, high temperature, intense thirst, flushed face, and restlessness. Symptoms gradually abating, as the sweating stage develops, until the temperature is normal, and patient seems about as well as ever, except for coated tongue, yellowish skin and constipation. If untreated, next day, or day after, *one or two hours earlier,* a more severe attack begins, and runs through the same stages. This rough grouping of symptoms indicates an easy diagnosis, but, like the "theme" in a musical composition, the description is susceptible of a wonderful number of variations. Quotidian, tertian, quartan, hematuria, estivo-autumnal, etc., to a simple supra-orbital neuralgia, without the remotest hint of malaria, except its periodicity.

Worse still, it so often complicates and influences other diseases, it is easy to find men who believe that all diseases in the Mississippi Valley should include quinine in the treatment. A common example of this character occurs about as follows: A high, continuous temperature, ushered in by distinct chill, or chills, with marked malarial tongue and general symptoms, yielding readily in a week to quinine, except for a low grade of fever, which persists, gradually merging into a typhoid of mild type, which runs the usual course. This combination of two distinct diseases in the same patient, at the same time, together with the estivo-autumnal form of malaria, gave rise to the so-called "typho-malarial" fever as a distinct type, an error which has been the subject of years of controversy.

The milder forms of malaria are very common in this section, the pernicious type occasionally, and hematuria never seen, except in imported cases, but a well-defined malarial paroxysm in a child under two years of age is, indeed, very rare. The cold stage is almost invariably absent, a sleep usually taking its place. At the height of the fever the child either approaches a condition of stupor, or is restless, nervous, and crying out, as from fright. The face is white around the nose and mouth, with flushed cheeks, or, more frequently, is very pale, while fever is high, the vasomotor system being profoundly disturbed. The nearest approach to the sweating stage is a slight moisture of the skin, even this often being entirely absent. This is about as near to a frank case of intermittent malaria as we ever see

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in young children, and when the digestive disturbances are considered, the resemblance to an acute attack of indigestion is striking. If so diagnosed and treated, the child will improve, and may have only a slight, irregular fever the next day or day after, or perhaps no fever at all, and you feel sure the diagnosis was correct.

Examine the child carefully. It does not seem sick much, but looks faded. The appetite is good, but capricious. The tongue is slightly coated white, the stomach easily disturbed, the bowels perhaps constipated, but usually loose, irritable, bloated and uncomfortable. Stools changeable, sometimes whitish and pasty, often bilious and fermentive—but always foul. Urine stains the diaper, is strong and highly colored. The spleen may be palpable, but not invariably so, but the liver is sure to be enlarged, though not tender. In a week an increase of digestive disturbance seems to cause another rise of fever, which again subsides with improved digestion. Quinine, in small doses, is given, with no change in condition, and treatment of digestion is continued. This describes a very ordinary case of malaria in a baby, but note how far it differs from the classical picture, and how noticeably it is lacking in the one characteristic symptom of all forms of malaria, periodicity. The beginning of the attack, as described, is even more decisively diagnostic than very many cases we meet in practice.

I was called to see a case recently, illustrating another familiar form of this disease. An eight-months-old breast-fed baby had seemed a little sick for a day or two; was bright and lively until ten o'clock, when it appeared listless and feverish. In half an hour it had a hard spasm, with a temperature of 103½° F. Shortly after it was clear of fever, and seemed all right. I feel confident the treatment instituted will prevent a return of the paroxysm.

Here is another illustrative case: A friend, who expected to be absent some time, asked me to take charge of a patient fifteen months old, suffering from malnutrition, with an irregular type of fever, following an attack of colitis. I visited the case with him, to meet the family and get the history. In talking it over with him I suggested malaria and insufficient strength of food, as causes for fever and emaciation, and was informed that quinine had been repeatedly exhibited without effect. I watched the case closely for several days without treatment, decided my diagnosis was correct, strengthened the food rapidly, put the child on anti-malarial treatment, and soon dismissed the patient, fat and well.

With experiences like these it is not surprising we sometimes are in error the other way. For instance, a plain case of broncho-pneumonia in a baby may seem much better, physical signs indicate improvement in the lungs, but there is a persistent fever, which reaches normal in the morning, and may be 102° F. in the evening, as regular in its periodical rise and fall

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as the tides. You may conclude that you have a malarial complication and give quinine, the only effect of which will be a disturbance of digestion, and consequent delay in recovery of patient.

I could multiply illustrations, but enough has been said to indicate some of the peculiar manifestations of malaria in young children. An explanation of these irregularities occurs to one familiar with the treatment of infants. A slight infection produces a paroxysm, the severity of which is astonishingly influenced by the state of digestion and amount of auto-intoxication. Modify diet, cleanse intestinal canal, promote secretion, and the natural resistance, *unimpeded,* is enough to postpone and modify the next one or two exacerbations.

By *improper* quinine medication this resistance is augmented, but not to the point of entirely destroying the malarial plasmodium, resulting in an irregular and protracted symptomatology, which can only be understood by obtaining a complete history, noting particularly how the attack *began.*

Diagnosis of malaria in most children may be difficult, but the treatment is simple and positive for the milder types, which constitute the majority of cases we are called to treat. For paroxysm, a simple treatment of symptoms is all required. If the bowels have not moved, give an enema, sponge and bathe for fever, or give small doses of an antipyretic, frequently repeated, until it cools. After the crest of the fever wave has passed, give one-half to one grain of calomel, divided into four doses, one dose every thirty minutes. Follow with oil, or a saline, in four hours after last dose.

Quinine is the remedy to prevent recurrence, and do not forget that children require relatively larger doses than adults. From eight to fifteen grains, dependent upon age of child and severity of attack, should be exhibited, the selected amount divided into five doses, given three hours apart, and so timed that the last dose will be given *four hours* before the attack began the day before. Begin it when due, fever or no fever. Repeat the second night, or if fever should rise, but, later, after first course of quinine, follow up in time, and slightly increase dose.

When acute attack is broken put your patient on a tonic of quinine and iron, with a small amount of pot. iodidi added, for thirty days. So much for the simple form of intermittent malaria. For the remittent type follow the same plan for a day or two, but if fever continues and only *remits,* reduce quinine to a few small tonic doses daily, paying special attention to diet and digestion until the night of the sixth day, then push the quinine until the seventh day is past. The fever will run lower the second week, and quinine should be pushed again for fourteenth day, and again for twenty-first day, if fever continues so long. This is not the book method of giving quinine, but clinical experience demonstrates its value and effectiveness.

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Every doctor will understand that this is only an outline of treatment, and that any plan must be modified to meet the special indications of each case. In the estivo-autumnal type particularly, quinine is only part of the treatment required. Southern physicians are charged with giving too much calomel, and rightly so, when they prescribe heroic amounts. In small, frequently-repeated doses, followed by a laxative—preferably a saline—its value can not be overestimated, and notwithstanding a former personal prejudice against it, I know of no drug which will take its place. Less quinine is required to prevent a malarial attack, if preceded by calomel, and the effect is more positive. Time and time again have I seen full doses of quinine administered without effect, because this part of the treatment was omitted. If you think simply a purgative will do as well, you have only to try it in the treatment of malaria to be convinced of the error of your position.

In closing, I answer the question which naturally presents, when I intimate a difficulty in the diagnosis of malaria. Why not settle it by a microscopical examination of the blood? I admit we should all use the microscope, but—we all do not; so, without attempting to offer reasons for its non-use by the busy general practitioner, I simply take the profession as it is, and not as it should be. I submit these suggestions for immediate adoption or rejection, as they may stand the practical test of bedside experience.

RECTAL DISEASES.

By Geo. J. Monroe, M. D., Louisville, Ky.

[Written for the Medical Brief.]

The subject of rectal diseases has been written about so much within the last few years that it appears almost useless to say anything more about them; yet I am one who believes that much—very much—can be learned in relation to these diseases, and very much will yet be said and written which will be of service to those afflicted. Perhaps we have passed the infant stage, but have hardly reached adult age in regard to this class of very common diseases. I have been devoting special attention to these afflictions for thirty years or more, and yet hardly a day passes but what I discover something new and of service; something which is beneficial and useful in their treatment.

Of course, a great deal which has been absurd has been written in regard to these diseases. Many weeds have had to be removed from the corn, but, nevertheless, the corn now is doing very well. Facts have been ascertained. Some of these facts are as follows: Every case of rectal disease should be cured, if possible. None of them are beneficial to any one.

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None of them, if cured, are liable to produce diseases or disease in any other part of the human system. All cases of piles and fissure can be cured. Nearly all cases of fistula can be cured. I doubt if cancer of the rectum can be cured. I doubt if syphilis of the rectum can be cured. Eczema of the anus can occasionally be cured. I now only employ two methods in the cure of piles, viz.: The ligature and hypodermic. All cases can be cured by the ligature. All soft piles can be cured by the hypodermic treatment. Hard, indurated piles had better be ligated. All cases of hemorrhoids can be treated in the office. Confinement to the house is seldom ever necessary after treatment. A patient does fully as well to be around and outdoors as he does to be confined to the bed. I recommend my patients to avoid any strenuous employment for a couple of weeks after treatment, but moderate exercise does no harm. All fissures can be cured by stretching the sphincter muscle, and by cutting through the muscle. I never cut any more in the treatment of irritable ulcer or fissure of the anus and rectum. I stretch with my fingers, and never use a dilating speculum for this purpose. In the treatment of fistula I now always use the knife. I simply cut the tissue between the fistula and the anus and rectum. There is no necessity of the backward cut. I insist upon my patient getting out doors a day or two after the treatment. Fistulous patients do not do well in being confined to the bed, or even the house. I have them come to my office daily. I find frequently that there is difficulty in curing fistulas. This, I think, depends upon the condition of the patient's system. A patient having a fistula is always below par, and requires tonic and alterative treatment. How often I have noticed a fistula, which has dragged along for months without healing after being treated, heal up in a month or six weeks if the general system has been built up and strengthened. I believe rectal specialists should direct more attention than they do to the general system in the management of their fistulous patients. Results would be better if they did. I have learned that cathartics will not, as a rule, cure chronic constipation. They may, perhaps, assist, but never cure. Diet of a proper kind is far more useful in these cases than is medicine. Exercise, if taken correctly, is useful. My treatment now for chronic constipation is massage, with faradic electricity. This treatment has proved eminently successful in my hands. I generally dilate the sphincter muscles in the treatment of constipation. I even do this if the muscles seem relaxed. Why this benefits I can hardly say, but experience has taught me that it does. I may say it is a routine practice in my hands.

I may, at some future time, at more length, enter into the treatment of rectal diseases.

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INFLUENZA.

By Charles G. Polk, M. D., Pensauken, N. J.

[Written for the Medical Brief.]

This malady is one of the most frequent that visits the United States. It is not ever entirely absent, sporadic cases occurring at every season of the year; and it spares neither age, sex or condition in life. It often assumes a widespread epidemic form, seizing upon a large per cent of communities and counting its victims by the thousands. It is evidently a contagious disease, being directly transmissible from one individual to another, often attacking almost a whole family at once. It presents its most violent forms amongst the aged and feeble. Every organ of the body is liable to become its seat—the brain, nervous system, pulmonary organs, stomach and intestines. Pneumonia is a frequent and often a fatal complication. The exciting and determining cause of influenza is yet undetermined, in spite of what the authorities claim to the contrary. It is, however, generally believed to be due to a definite micro-organism which we are yet unable to name, which assumes increased action under certain atmospheric conditions and simultaneously attacks a large proportion of a community. In 1890, I had at one time forty patients seriously ill with it, ten of which had broncho-pneumonia.

The diagnosis is not difficult. The attack is sudden, and there is a rapid increase of the temperature, which often reaches 105° F., retaining this elevation for several days. It resembles dry dengue in its sudden invasion and the severe pain in the head it occasions, but is lacking in pains in the back and limbs which, if present at all, are less severe, and the nervous system is much more severely involved, tic douloureux being terrific in influenza.

Humidity of the atmosphere seems to exert a potent influence, damp, chilly, foggy weather greatly influencing its development and spread. Temperature, especially a cold, dry atmosphere, is unfavorable to its spread, and it also diminishes its severity, fatality and resistance to medical treatment.

Altitude does not exert any very decided influence for or against the origin and spread of this malady, apparently pursuing the same course on the mountain and in the valley.

Therapeutics is of the first importance. How to halt its progress and overcome its numerous complications is the most important duty devolving upon the physician. To lower the high temperature and the attending nervous symptoms demands our first consideration. The coal-tar products naturally attract our first consideration; but their depressing action at once suggests the necessity of great caution in their use. I always commence the treatment of every case where I encounter high

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temperature with a prescription containing acetanilid with salol, quinia sulph. and tincture aconite rad. (U. S. P., 1890); these, combined in suitable doses, I prescribe in capsules, giving one each three hours.

The temperature is reduced, the skin becomes moist, the severe headache and other neuralgic pains are dissipated within twenty-four hours. To evacuate the bowels is an important indication, as the liver is almost always involved in this malady. A good cholagogue is suggested. I usually give the following:

℞ Podophyllin ..... 2 grains.
Leptandrin ..... 12 grains.
Pulv. Aloes ..... 3 grains.
Hydrarg. Chl. Mite ..... 3 grains.

M. Ft. Pilula No. 12. Give one pill after the capsule until the bowels are evacuated.

The above will nearly always abort an uncomplicated case within three days. Pneumonia is the complication most to be dreaded, and always demands our serious consideration. To meet this complication I have usually found the following as my most successful course:

℞ Ammonii Carbonate ..... 4 scruples.
Syrup Senegae ..... 1 ounce.
Fl. Ext. Pruni Virg ..... 1 ounce.
Codiæ ..... 16 grains.
Syrup Glycyrrh, q. s. ad ..... 4 ounces.

Sig.: A dessertspoonful in water after each meal.

Hot mush poultices applied on the chest have an excellent effect upon the pneumonia.

If the heart becomes weak, we must support it. Tincture of digitalis and nitrite of amyl, given every three hours, are the remedies. If other complications spring up, they must be treated according to the indications they may present.

ITCH.

The *Bulletin des Sciences Pharmacologiques* recommends two remedies for the itch. Both are essentially the same, but the prescription intended for summer contains a small per cent of white wax to decrease its melting point.

1. WINTER PRESCRIPTION.

Sublimed sulphur ..... 150 grains
Potassium carbonate, pure ..... 60 grains.
Lard ..... 480 grains.
Distilled water ..... 60 grains.

2. SUMMER PRESCRIPTION.

Sublimed sulphur ..... 150 grains.
Potassium carbonate ..... 60 grains.
Lard ..... 465 grains.
White wax ..... 15 grains.
Distilled water ..... 60 grains.

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EDITORIAL

TOO MUCH SPECIALISM.

The field of human endeavor is so extensive that no one individual could ever hope to master all parts of one subject. Such a subject is the art or science of medicine. Rapid, indeed, has been the pace set in the progress of medicine within the past half century. Keeping abreast with the advance of medicine has proved to be a difficult matter for every man in the profession. It is for this reason that some have deemed it fitting and proper to select a branch of medicine to the exclusion of other practice, and by strict devotion to that particular branch, they have, individually and collectively, accomplished more for the general good of mankind than would have been done by a concerted effort to view medicine as a universality. Magnificent results have thus been obtained by subdividing the work into sections.

Beneath this apparently rational scheme for the development of medicine there lies a danger which has been, as yet, but little thought of by the average physician. With all the delving into special lines of medicine, with all the development of special apparatus and special paraphernalia for the various specialists, there is a serious flaw in the system, a flaw that in some instances, operates so adversely against the interests of the patients that very often it might be said that 'twere vastly better for humanity had there never been such a thing as a specialist in medicine or surgery. This flaw consists in the narrowness of view of the average specialist in that he fails to recognize disease conditions outside his own specialty, or, rather, refuses to see anything pathological that can not be explained by the phenomena arising from the diseases of his own line of work. In other words, some specialists forget that the human body can not be divided into segments and sections like the various parts of an edifice; they forget that an aberration in function of some remote part is accompanied by disorder of the whole organism. They want to tinker one spot and believe they can remedy the whole in that manner.

Such a hiatus exists in the minds of some specialists concerning knowledge of general medicine that one could as well entrust his health to the keeping of a piano-tuner as to one of this gentry. This habit of mind undoubtedly is caused by too sudden an entry into the domain of a specialty upon medical graduation. The medical student of the present day, unless duly warned, wants to be either an abdominal surgeon or a dermatologist, or a rhinologist the day after he is graduated. We recognize the fact that no one should specialize before he has been at least ten years in active general practice. At the expiration of this time he is capable of selecting

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the line for which he is best adapted, and at the same time he knows enough general medicine to keep him from making mistakes as a specialist when dealing with cases that require general as well as special treatment.

And another point in this connection: the "refinery" of some city specialists is absurd. An "obstetrical" specialist will not prescribe for the new-born child. He orders the services of the "pediatrist." The pediatrist is never in a hurry to order himself out of the case. The whole proposition appears to be an attempt to eliminate the general practitioner from the field of practice. There is a general tendency among specialists to belittle the work of the general man; a feeling as if to say: "If you had consulted me immediately instead of the family physician, you would have been cured by this time." The specialist should appreciate the wider experience and greater difficulty in practice of the general practitioner, and should esteem him rather than belittle him. If one were to compile the facts relating to the mistakes of the general practitioner, together with those of the specialist, the following conclusion would undoubtedly be deduced: The sum of cases is greater in which the general practitioner recognizes and relieves special disorders in *his* practice than is the sum of cases in which the special practitioner recognizes general disorders in *his* special cases.

ADVERTISING UNOFFICIAL PREPARATIONS.

The American Medical Association—or rather the bureau which *controls* the association, for it can not be supposed that the members at large had any concern in the matter beyond the perfunctory passage of any resolutions presented to them from the council chamber—has recently communicated to the medical press of the country a resolution adopted at its last annual convention, requesting them to refuse advertisements of all unofficial remedies which have not yet been passed upon by the Council on Chemistry and Pharmacy and assigned a place in its blue book.

It is unnecessary to reopen at this time the whole subject of proprietary remedies and the jurisdiction of the Council on Chemistry and Pharmacy. Undoubtedly the communication referred to will carry to the society organs in the various States the expression of a more or less peremptory command, which we nevertheless venture to predict will not be any too broadly observed. For the rest, it is enough to point out that there are many and excellent reasons why the independent medical press can not and should not comply with a request of this gratuitous and unreasonable character.

It might, indeed, occur to any intelligent person, as a foregone and axiomatic reply to such a propaganda, that the independent medical press, in virtue of the essential nature and quality of its function, is estopped from complying with the request. It is like asking an employer who is, as a matter of principle, contending for the open shop, to treat

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with the union. The independent medical press has obligations which it is bound to fulfill, no less than the society organ—obligations more sacred and binding because more fundamental. It stands distinctively for the independent practitioner, *whether inside or outside of the union,* who, while he approves of organization for purposes of scientific and economic progress, *denies both the right and the expediency of any organized paternalism, and resents any attempted curtailment of his individual judgment.*

But supposing that we waive the question of unionism, and discuss the matter sheerly upon its merits; the result will not be widely different. Granting, for the nonce, the value and validity of the Council's function, is it wise at this time to engage in a concerted boycott of all those pharmacal preparations which have thus far failed to undergo its investigation and to receive its approval?

In the first place, the number of preparations already passed upon by the Council is exceedingly small. It can not for a moment be assumed that all the rest are unworthy. Does the Association really and seriously suggest that all preparations—many of which are in every-day clinical use and favor by thousands of practicing physicians throughout the country—shall be arbitrarily kept in the ante-chamber cooling their heels and awaiting the convenience of the self-constituted grand jury? And if so, *cui bono?* It does not even appear that the Council is provided with, or is employing, any clinical methods of trying out the preparations under investigation. The fact is—and this affords a further powerful argument against acceding to the Association's ill-advised request—it has already examined and rejected more than one unofficial remedy of whose clinical worth, despite all of the Council's erudite criticism, there is no doubt in the minds of thousands of able and honest practitioners of medicine. Does the Association really and seriously expect that the verdict of the Council upon these preparations will finally dispose of them in the face of their almost universal clinical endorsement?

But far more fundamental than any of the considerations thus far mentioned, is the baneful and mischievous effect which such a concerted action on the part of the medical press of the country would have upon pharmacal and therapeutic progress. Scarcely any proposition could be formulated which would more powerfully demonstrate the pernicious tendencies of an overorganized medical press, and the imperative necessity of the independent journal. Specialized investigation is a very excellent thing in its proper province and at its proper valuation. But there never has been an instance of its playing any effective part in permanent evolution or progress, and in this respect it can never supplant, nor will it ever again replace, the more trustworthy process of natural selection. The adoption of such a plan as that suggested by the Association would set the matter of pharmaceutic commodities back where pharmaceutic knowledge was in the middle ages. It would establish an index purgatorious of pharma-

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ceutical preparations subject to the papal autocracy of the Council on Pharmacy. Imagine a condition of similar restriction upon the dissemination of scientific knowledge, and figure how much progress science would be likely to make under such a prohibition. Already the free discussion of proprietary preparations in the editorial pages of medical journals is tabooed as an undesirable proceeding; only the very bravest of the independent journals dare to engage in it. Now it is proposed to cut off the economic channels by which the products of pharmaceutic skill may freely reach the medical man for his own unhampered trial and judgment. *Can anyone seriously believe that such a course is for the best interests of medical science or anyone connectd with it?*

It must not be supposed, because this is our attitude, that we therefore advocate the throwing open of the independent advertising columns to any and every preparation that is offered, provided only that it pays the price of the space. We anticipate just such an alleged alternative in the thoughts, if not in the words, of our extremely ethical (?) friends; and indeed it has already more than once found expression in their criticisms. But it is not well chosen, and displays a lack of discrimination. On the contrary, we regard ourselves, in our journalistic capacity, as a responsible factor in that true evolution of medical science and medical technique which we have characterized as natural selection. But we do not regard ourselves as the omnipotent arbiter of such evolution. We believe it to be the function of a medical journal to provide, both in its editorial and its advertising pages, "things honest in the sight of all men," and to use its reasonable care and judgment in so doing.

If we are offered, for our editorial pages, an article or a report, emanating from a scientific man, which bears upon its face the ordinary evidences of good faith and honesty, and which, if true, is of value to the practitioner, we publish it. To refuse to give it place until its absolute value had been permanently established would put a stop to all scientific progress, so far as our efforts were concerned. It is for the medical public, to whom it is offered, to "try the spirits." In the matter of pharmaceutical armamentaria, made public through our advertising pages, the same principle applies. The exercise of reasonable judgment in the discrimination of ordinary good faith and honesty and of probable value to the profession is, in our judgment, the only legitimate part for the medical journal to play in the process of natural selection by which the good is garnered and the useless rejected. The ultimate determination of permanent values is not the function of any journal, nor of the Council on Chemistry and Pharmacy, nor of any other institution, but of the profession at large.

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GONORRHOEA AND ITS TREATMENT.

There is probably no drug in the Pharmacopœia that has not been used either internally or locally in the treatment of gonorrhœa. All of which indicates that we have no specific treatment for this disease. False conceptions of the pathology of the affection have led many practitioners into error in the treatment of gonorrhœa, and yet, even with the best thinkers and practitioners on this subject, success has not always perched upon their banners. There have been advocates of the internal method of treatment to the exclusion of the local methods, and there have been advocates of the external to the exclusion of the internal treatment. There have been some who declare themselves in favor of a combination of the internal and the external, the external to kill the gonococcus, and the internal to relieve the subjective symptoms. Relief of the subjective symptoms undoubtedly is demanded in a large majority of the cases. It is a far cry from the mouth of the patient to the mouth of the urethra and the follicles of the deep urethra, and it is a matter of great doubt whether any agent ingested into the stomach has any influence in disturbing the life of the gonococcus.

The local treatment has been exhaustively used, some using one drug and some another. Results have been obtained by some with hand irrigations used by the patient; others have failed, and do not write prescriptions for injections for the patient's own use. Some have used irrigations with unusual success. Others have failed.

Some use medicated bougies in the acute stage. Others claim that the use of these bougies almost always is followed by a shifting of the infection from the urethra to the epididymis. Some use potassium permanganate and swear by it. Others fail to get any results with it at all. Some use silver nitrate and claim they cure gonorrhœa in two weeks with it. Others say it should only be used in the chronic stage. Some laud argyrol to the skies. Others get no results with it. Some say use argyrol in ten to twenty per cent solution. Others say it does no good except in fifty per cent solutions. All say it is too expensive for irrigation employment. Some use other organic silver salts, some of which are decidedly irritating, upon which point there is no chance for an argument, for, if you doubt it, ask your patient.

The results of all these methods show us that many cases of gonorrhœa are curable, but that no set rules can be laid down for the guidance of the physician in all cases. He must elaborate his technique, and learn from individual experience what to expect with each particular remedy. He must study each case, and apply his technique to that case as conditions arise. He must learn when to irrigate and when to use posterior installations. He must learn the use of emollient salves, used with a deep prostatic applicator in long-standing cases—a method advocated by Young, of Johns Hopkins. He must practice prostatic and seminal-vesical massage in

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selected cases, and not too often at that. With individual technique, with the usage of all the antiseptic, emollient and healing agents at our command, many cases of gonorrhœa can be cured.

What constitutes the cure of gonorrhœa? Does it mean absolute clarity of the urine, with no shreds or pus cells, and absence of gonococci, or does it mean shreds but no gonococci? Opinion is divided upon this subject. Some authorities teach that the continued absence of gonococci in the pus and material found in urine, or milked out of the prostate or seminal vesicles means, to all intents and purposes, "cure," and permission to marry without danger of infecting the wife. Others, more conservatively, say that the persistence of shreds, or even the morning drop, means continued infection, even though the usual tests of irritation, free use of alcoholic stimulants, cohabitation, irritant injections of silver nitrate, fail to bring out any gonococci from the deep follicles, and that permission to marry should be withheld until the urine is absolutely clear. Casper inclined to the view of the former class, and so do most of the writers on the subject. Needless to say, the practitioner should not confine his examination to one specimen of urine or secretion; it should be practiced again and again before the final permission is given.

A DEPILATORY TO BE USED BEFORE SURGICAL OPERATION.

Cases may arise where it may be very desirable to shave a patient without recourse to the razor, when a satisfactory depilatory is a desideratum. The following preparation, like all the tried depilatories, combines an alkaline caustic action with that of a soluble sulphide:

Monosulphide of sodium	1 part.
Quicklime	1 part.
Starch	2 parts.
Water, a sufficient quantity to form a stiff paste.	

The monosulphide and the quicklime are to be separately pulverized. An intimate mixture is then made with the starch. The amount of water added must be gauged carefully, for too much will give a thin paste of no value, while too little water produces a crumbly mass that has no depilatory action. The water should be added very slowly, until a mass of smooth, salve-like consistency is obtained.

Before application, the patient must be thoroughly washed; all the longer hairs should be removed with a pair of scissors. The paste is then freely applied with a spatula, forming a uniformly thin layer over the desired place. After five minutes, the salve may be removed with a sterile swab of cotton. The skin is to be thoroughly washed with a sterile distilled water until all alkali is removed. A clean, sterile shave is thus obtained on short order, and the surgeon may proceed with the operation. —*Journal de Medicine et de Chirurgie Pratiques.*

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UNIVERSITY OF THE STATE OF NEW YORK.

78th Medical Examination.

ANATOMY.

Tuesday, October 1, 1907—9:15 a. m. to 12:15 p. m., only.

Answer any ten of the questions on this paper but no more. Check the number of each one of the questions you have answered:

1. Give the general characteristics of a vertebra. Describe the atlas.
2. Describe the ligaments of the hip joint.
3. Describe the varieties of muscular fiber and state where each variety is found.
4. Describe the branches of the arch of the aorta.
5. In what part of the body are the azygos veins? What purpose do they serve?
6. Give the anatomic name, the location, the average size and the average number of the lymphatic glands of the ileum.
7. Describe the course of the fibers in the optic commissure.
8. Give the minute anatomy of the skin.
9. State the position, structure, length and relations of the esophagus.
10. Give the gross anatomy of the eye.
11. Write a description of the thyroid gland.
12. What organs are wholly or partially retroperitoneal?
13. Give the relations of the stomach. What glands are found in the mucous membrane of the stomach?
14. Describe and locate the appendix vermiformis.
15. Give the course, caliber, relations and structure of the ureter.

PHYSIOLOGY.

Tuesday, October 1, 1907—1:15 to 4:15 p. m., only.

1. Define protoplasm and give the characteristic properties of living protoplasm.
2. Describe the heart sounds and state to what they are due.
3. Give the average normal temperature and the rate of pulse and of respiration in (*a*) the infant, (*b*) the adult, (*c*) the aged.
4. What digestive changes take place under the influence of saliva and of gastric juice?
5. State the origin and the functions of bile. What is the average quantity of bile secreted in twenty-four hours?
6. Describe the process by which digested food is absorbed.
7. Describe the physical properties of blood and name its constituents.
8. Describe the manner in which the vibrations of the air are transmitted through the auditory apparatus to be interpreted as sound.
9. State the origin of urea in the body. Mention the average amount of urea excreted in twenty-four hours.
10. Describe the physiologic mechanism of perspiration.
11. Give the functions of (*a*) the medulla oblongata, (*b*) the cerebellum.
12. Give the mechanism of focal accommodation.
13. Describe (*a*) tonic muscular contraction, (*b*) clonic muscular contraction.
14. State in detail how the placenta performs its function.
15. Describe the physiologic action of the kidney.

HYGIENE AND SANITATION.

Wednesday, October 2, 1907—9:15 a. m. to 12:15 p. m., only.

1. Define (*a*) drainage, (*b*) sewage, (*c*) sewerage, (*d*) humidity, (*e*) ptomain.
2. In what part of an occupied room is the air most impure? Explain.
3. Explain the difference between hard water and soft water. State how a milk supply may be contaminated by impure water.
4. In what ways do forests benefit public health?
5. Diphtheria and variola are more prevalent in cold weather than in warm weather; explain why this is so. Give hygienic procedure in a case of diphtheria.
6. What methods should be employed for the prevention of yellow fever in the tropics?
7. Describe a procedure of disinfecting and of disposing of typhoid fever stools.
8. Mention some pathogenic bacilli found in drinking water and state what means should be employed to render such water potable.
9. What hygienic measures are advisable for the prevention and eradication of scorbutus?
10. What evil consequences may arise from the excessive use of tobacco?

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11. What means should be employed under public health administration to prevent the spread of tuberculosis?

12. Mention *three* diseases induced by industrial pursuits. Explain how these diseases are caused.

13. Discuss the immunizing power of vaccination. State the possible dangers of vaccination.

14. What influences or conditions probably tend to make cerebrospinal meningitis epidemic? Mention prophylactic measures and describe the supposed causative germ.

15. Mention the various kinds of baths employed in health and in disease, and state the general hygienic rules to be observed in their use.

CHEMISTRY.

Wednesday, October 2, 1907—1:15 to 4:15 p. m., only.

1. Define element, ion, specific gravity, reaction, anhydrid.

2. Give the chemical reaction of (*a*) saliva, (*b*) gastric juice, (*c*) urine, (*d*) mother's milk, (*e*) synovial fluid.

3. Give the laboratory preparation of O, of CO_2 and of H_2S. Give the properties of *one* of the products mentioned.

4. What is the chemical name of (*a*) common table salt, (*b*) soot, (*c*) vinegar, (*d*) blue vitriol, (*e*) Rochelle salt?

5. Give the formula, method of preparation and principal uses of chlorid of lime.

6. Describe a test for biliary acids and their salts.

7. State the changes occurring in the air and in the blood in respiration.

8. Give the formula, uses and properties of hydrogen dioxid.

9. Give a test for the detection of alum in baking powder.

10. State the source of *each* of the following acids: (*a*) hydrochloric, (*b*) sulfuric, (*c*) lactic, (*d*) tannic, (*e*) tartaric.

11. How may carbolic acid be prepared? Mention a chemical antidote for carbolic acid poisoning.

12. Describe (*a*) a qualitative test for sugar in the urine, (*b*) a quantitative test for sugar in the urine.

13. What is the action of a solution of permanganate of potassium used as a disinfectant?

14. Give the names and state the formulas of the different compounds used to produce general anesthesia.

15. Complete the following equation: $2KI+MnO_2+2H_2SO_4=$

SURGERY.

Thursday, October 3, 1907—9:15 a. m. to 12:15 p. m., only.

1. Mention the indications for draining a wound and describe the methods of securing drainage.

2. Define (*a*) lipoma, (*b*) angioma, (*c*) osteoma, (*d*) myxoma, (*e*) carcinoma. Give the symptoms of scirrhous carcinoma of the breast.

3. Describe in detail amputation of the forearm.

4. Give the treatment of a compound fracture of the shaft of the tibia.

5. Give the symptoms and the treatment of a forward dislocation of the head of the humerus.

6. Describe the injury received by the various tissues in a severe sprain of the ankle, and outline the treatment.

7. What should be the immediate procedure and the subsequent surgical dressing in a case of talipes equinovarus in a new-born infant?

8. Give the surgical treatment of hemorrhage. Describe (*a*) intravenous saline infusion, (*b*) hypodermoclysis.

9. Give the symptoms of vesical calculus. Describe a method of proving the presence of a vesical calculus.

10. Describe the preparation necessary for an aseptic laparotomy as regards (*a*) the patient, (*b*) the surgeon, (*c*) the assistants, (*d*) the instruments, (*e*) the operating room.

11. Differentiate between fistula and sinus. Describe the surgical treatment of fistula in ano.

12. Mention the most common causes of iritis. Give the symptoms and the surgical treatment of iritis.

13. What conditions render tonsillotomy advisable, and how is the operation performed?

14. When should skin grafting be employed? Describe an approved method of skin grafting.

15. Describe in detail the treatment of a scalp wound when a fractured skull is suspected.

OBSTETRICS AND GYNECOLOGY.

Thursday, October 3, 1907—1:15 to 4:15 p. m., only.

1. State the indications for the use of the intrauterine douche and mention the objections to its use.

2. Give the physiologic explanation of fecundation.

3. Describe the permanent changes in the female sexual organs following parturition.

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4. What are the causes of toxemia of pregnancy? Give the prophylactic management of such a condition.

5. What are the varieties of placenta previa, and how should each variety be managed?

6. Under what conditions does version become imperative? How should version be performed?

7. How is external palpation applied in the diagnosis of the position of the fetus?

8. In the after-coming head, what principles should be applied to secure a living child? How may a dead fetus influence labor?

9. What conditions demand the induction of abortion prior to quickening and what is the technic of the procedure?

10. Give the prognosis and the treatment of a uterine fibroid complicating pregnancy.

11. State the pathology, symptoms and surgical treatment of endometritis.

12. Differentiate between menorrhagia and metrorrhagia. Give the surgical management of each.

13. Define atresia of the vagina and state the method of relief.

14. Give the etiology and the surgical treatment of erosions of the cervix uteri.

15. Give the causes and the dangers of ophthalmia neonatorum and state the preventive management.

PATHOLOGY AND BACTERIOLOGY.

Friday, October 4, 1907—9:15 a. m. to 12:15 p. m., only.

Pathology.

Group I. 1. Describe (*a*) the syphilitic lesions of the skin, (*b*) the lesions in lupus.

2. What pathologic changes in lung tissue occur in the various stages of lobar pneumonitis?

3. Describe the changes that occur in the structure of the crystalline lens in cataract.

4. What is leukocytosis and to what conditions may it be due?

5. Describe and illustrate by a drawing or otherwise, the microscopic appearance of an adenoid.

6. Describe the macroscopic and the microscopic appearance of carcinoma of the breast.

7. What pathologic conditions are productive of icterus?

8. Describe the changes that occur in degeneration of muscle.

Bacteriology.

Group II. 9. What are the three basic forms of bacteria? Describe each form by drawing or otherwise.

10. Name and describe the microorganism of typhoid fever.

11. Describe the tubercle bacillus. Give a method of microscopic demonstration of the tubercle bacillus.

12. What is a pure culture? Mention *three* of the most useful culture media.

13. Describe the specific organism of tetanus and state its peculiar culture characteristics.

14. Name and describe a malarial parasite.

15. What is a diplococcus? Give the names of *two* pathogenic diplococci.

DIAGNOSIS.

Friday, October 4, 1907—1:15 to 4:15 p. m., only.

1. What vertebræ are directly back of the following points: (*a*) xiphoid appendix, (*b*) Ludwig's angle (angulus Ludovici), (*c*) suprasternal notch?

2. What is the significance of (*a*) albumin in the urine, (*b*) casts in the urine?

3. Make a differential diagnosis of the sore throat of diphtheria, scarlatina and acute tonsillitis.

4. What are the symptoms of incipient tuberculosis? With what other conditions may incipient tuberculosis be confounded?

5. Give the normal boundaries of cardiac dullness. What conditions may increase the area of cardiac dullness?

6. Describe the stools in (*a*) enteritis, (*b*) dysentery.

7. What is the significance of (*a*) bronchial breathing, (*b*) crepitant râles, (*c*) vesicular breathing?

8. Make a differential diagnosis of gastric ulcer, cancer of the stomach and stenosis of the pyloric end of the stomach.

9. What is the incubation period of (*a*) rubeola, (*b*) parotitis, (*c*) variola, (*d*) varicella, (*e*) scarlatina?

10. Describe an attack of hepatic colic due to biliary calculi.

11. Give the topography of the valves of the heart on the chest wall. Where is a mitral obstructive murmur heard loudest?

12. Give the clinical signs of pus formation and retention.

13. What are the diagnostic features of tabes dorsalis?

14. Give an estimate of the value of the X-ray as an aid to diagnosis.

15. State the diagnostic value of a blood examination in (*a*) chlorosis, (*b*) appendicitis, (*c*) trichinosis.

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BOOK NOTICES.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene, and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profesison Throughout the World. Edited by W. T. Longcope, M. D., Philadelphia, W. S. A., with the Collaboration of Wm. Osler, M D., John H. Musser, M. D., A. McPhedran, M. D., Frank Billings, M. D., Chas. H. Mayo, M. D., Thos. H Rotch, M D., John G. Clark, M. D., James J. Walsh, M. D., J. W. Ballantyne, M. D., John Harold, M. D.. Richard Kretz, M. D. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume II, Seventeenth Series, 1907. Philadelphia and London: J. B. Lippincott Co.

PRINCIPLES AND PRACTICE OF MODERN OTOLOGY. By John F. Barnhill, M. D., Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine; Otologist and Laryngologist to Deaconess and State College Hospitals, etc., and Ernest de Wolfe Wales, B. S., M. D., Associate Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine; Former Assistant in Otology, Harvard Medical School; Former Assistant Aural Surgeon, Massachusetts Eye and Ear Infirmary, etc. With three hundred and five original illustrations, many in colors. Philadelphia and London: W. B. Saunders Company, 1907.

These writers have covered the special line of otology in this text-book, which will prove of material assistance to the otologist, as well as to the "occasional" otologist. The authors have borne in mind certain objects in the preparation of the work, and these are: 1, to modernize the subject; 2, to correct certain traditional beliefs; 3, to advocate the earliest possible prophylaxis or treatment; 4, to emphasize the importance of a thorough examination and a definite diagnosis as a basis for rational treatment; 5, to illustrate the text.

These five objects are surely accomplished in the work, and we recommend it to those desirous of reading up or of working in otology.

DISEASES OF THE NOSE AND THROAT. By D. Braden Kyle, M. D., Professor of Laryngology and Rhinology, Jefferson Medical College, Philadelphia. Fourth Edition, Thoroughly Revised and Enlarged. Octavo volume of seven hundred and twenty-five pages, with two hundred and fifteen illustrations, twenty-eight colors. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $4.00 net; half morocco, $5.50 net.

This fourth edition of Kyle's standard work on diseases of the nose and throat can be conscientiously recommended to the practitioner of medicine as well as to the specialist. The statement of the author in the preface is certainly borne out in the text: "As in the previous editions, it has been the author's aim to take up each subject from a general standpoint, and to consider under diagnosis, pathology and treatment all systemic conditions in their relation to the special diseases of the nose and throat, as the same general fundamental principles involved in general medicine are certainly applicable to any specialty."

This is an admirable book for a student of nose and throat diseases, *i. e.*, a general practitioner who wishes to perfect his technique along these lines.

Among the useful points about this work can be mentioned a chapter called "Taking Cold."

The regulation operations in this special region are fully described, and full literature is given in all instances.

THE TREATMENT OF FRACTURES: WITH NOTES UPON A FEW COMMON DISLOCATIONS. By Chas. L. Scudder, M. D., Surgeon to the Massachusetts General Hospital. Sixth Edition, Revised and Enlarged. Octavo volume of six hundred and thirty-five pages, with eight hundred and fifty-four original illustrations. Philadelphia and London: W. B. Saunders Company, 1907. Polished buckram, $5.50 net; half morocco, $7.00 net.

This excellent work, now in its sixth edition, is a valuable contribution to the literature of medicine. It is well written and sufficiently illustrated to give a comprehensive idea of the different subjects discussed. The treatment of fractures is certainly deserving of special literature in the shape of text-books, and this text-book of Scudder ought to be considered a classic. The X-ray work

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in the book is well done and deserves especial commendation. This part of the work is written by E. A. Codman. It shows the relation of X-ray work to fractures, and the practical value of X-rays in this class of injuries.

Another laudable feature of the work is a chapter on "The Employment of Plaster-of-Paris." Full directions are given for the making of plaster-of-paris bandages, as well as directions for their application to fractured bones. The illustrations in this section of the book are very good. Reference is made to the lateral plaster splint made by pouring a plaster-of-paris cream into layers of crinoline and then applying the plaster-crinoline to the limb. This is a very useful procedure.

MEDICAL DIAGNOSIS. A Manual for Students and Practitioners. By Charles Lyman Greene, M. D., Professor of the Theory and Practice of Medicine in the University of Minnesota; Attending Physician St. Luke's Hospital, the City Hospital and the St. Paul Free Dispensary; Member of the Association of American Physicians, the American Medical Association, American Association for the Advancement of Science; Author of the "Examination for Life Insurance and its Associated Clinical Methods," etc., etc. Second edition, revised, with seven colored plates and two hundred and forty-one illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street, 1907. Price, $3.50.

The worth of a book and the ability of the writer can sometimes be told by reading but one chapter. The very beginning of the work in hand entitled "Preliminary Remarks on Case-Taking and Diagnosis," stamps the author as a man of experience, erudition and common sense. In the first three pages of this book he has expressed more than most writers do in a volume. These remarks on case-making and general survey of the patient are commonly not made by medical writers, but they represent the seed of medical diagnosis. He says, in part, "to make a case history full, accurate, yet concise; to elicit the salient facts and assign to each its proper value and perspective demand; that the observer be full of knowledge, quick of perception and capable of avoiding both the shoals of omission and the rocks of verbosity."

The author takes up seriatim the various methods of making a medical diagnosis; he states what can be told from the facial expression, from the color of the skin, from the dress of the

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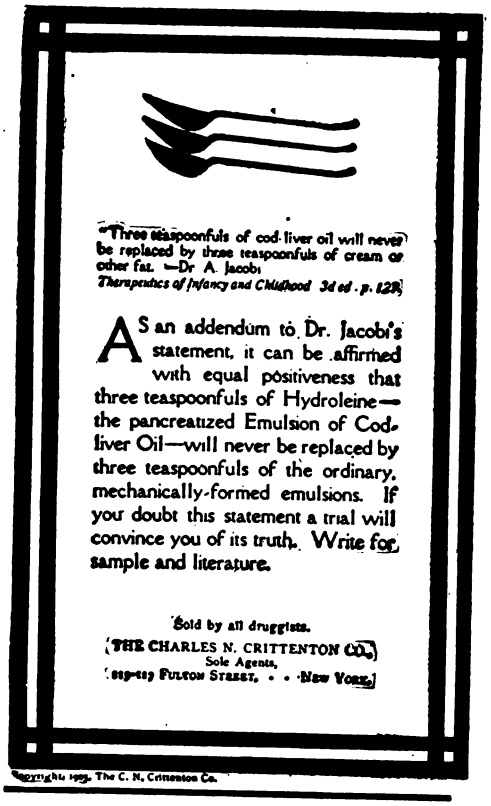
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Therapeutics of Infancy and Childhood 3d ed. p. 128
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patient, the appearance of the head, the eyelids, the ears, etc.; in short, the "outward" signs of disease. The entire section which is devoted to the anamnesis is certainly commendable.

The use of the X-ray in the examination of the chest is fully considered. He says that while the X-ray is but a part of physical examination, one is surprised to find how often ordinary physical signs have been misleading, or have failed to reveal more than a part of the condition actually existing.

The book throughout teems with valuable thoughts and suggestions, and can well serve either student of medicine or practitioner in helping him to diagnose disease in its many manifestations.

ATLAS AND TEXT-BOOK OF HUMAN ANATOMY. Volume III, completing the work. By Prof. J. Sobotta, of Wurzburg. Edited, with additions, by J. Playfair McMurrich, A. M., Ph.D., Professor of Anatomy at the University of Toronto, Canada. Quarto of three hundred and forty-two pages, containing two hundred and ninety-seven illustrations, mostly all in colors. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $6.00 net; half morocco, $7.50 net.

This third volume deals with the vascular system, lymphatic system, nervous system and sense organs. The experience of the author in the dissecting-room has led him to depict the peripheral blood-vessels and nerves as the student is accustomed to see them in the cadaver, *i. e.*, the vessels and nerves together in the same region. The arteries and nerves, or the arteries, veins and nerves, or the arteries and veins of the various regions, are shown in the same illustration. The illustrations in color are made from half-tones from original drawings by K. Hajek, the well-known artist and anatomist.

The work is essentially an anatomical atlas for the student and the practitioner, not for the trained anatomist. It is designed to represent a composite picture of the various blood-vessel structures of the human body, and so save the student of anatomy loss of time in looking up points in the ordinary anatomical atlas which is designed for the specialist. For this reason we can recommend the work.

THE COUGHS FOLLOWING GRIP.

Dr. John McCarty (Louisville Medical College), in giving his personal experience with this condition, writes as follows: "Ten years ago I had the grip severely, and every winter until 1902 my cough was almost intolerable. During January, 1902, I procured a supply of Antikamnia and Codeine Tablets and began taking them for my cough, which had distressed me all winter, and as they gave me prompt relief, I continued taking them with good results. Last fall I again ordered a supply of Antikamnia and Codeine Tablets, and I have taken them regularly all winter, and have coughed but very little. I take one tablet every three or four hours and one on retiring. They not only stop the cough, but make expectoration easy and satisfactory. The best results are obtained by allowing the tablet to dissolve slowly in the mouth before swallowing."

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., MARCH, 1908. NO. 3.

TRAUMATIC RUPTURE OF THE URETHRA.

BY EDWARD J. ANGLE, A. M., M. D.,

Professor of Genito-Urinary Surgery and Skin Diseases, Nebraska College of Medicine, Lincoln, Neb.

[Written for the MEDICAL BRIEF.]

In reviewing the literature, one can not fail to be impressed with the paucity of detailed information on this subject. Many works on surgery dismiss it with a few paragraphs, while in others the discussion is so general and indefinite as to be valueless to the general practitioner.

Occurring, as it does, in the rural districts as well as in the city, the general practitioner is first called, and the final result in a patient, the subject of ruptured urethra, will depend upon an accurate, early diagnosis, and proper treatment.

Therefore, it behooves the practitioner to be familiar with the mechanism of the injury, its symptoms, and results, and, if necessary, summon a surgeon before hemorrhage and urinary extravasation threaten the vitality of the tissues, and sepsis the life of the patient.

I quote from Lydston, who says to the point: "The subject of urethral traumatisms, while strictly surgical, is very important to the general practitioner. He is usually first upon the scene after injuries, and may be led to believe that certain cases are of trifling importance, when they urgently demand the immediate attention of an expert surgeon. It is by no means serious swelling, pain, and retention of urine alone that require careful surgery. A knowledge of the possible immediate dangers, ultimate results, and proper treatment of traumatisms of the urinary canal is of the greatest importance, not only because of the immediate gravity of many cases, but of the possible remote, yet serious, results."

Rupture of the pendulous urethra seldom occurs, except during erection. It is usually the result of breaking a chordee, "fracture of the penis," or forcible manipulation of the erect organ. The flaccid penis is so movable that it usually escapes the force of blows and kicks.

Rupture is most commonly found in the perineal urethra, and it is to this portion that my remarks will be directed. The seat of the rupture is usually the bulb. The membranous or posterior urethra is torn in cases of fracture of the pelvis, or disjunction of the pubic symphysis. The prostatic urethra is involved only in cases of extensive fracture.

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Kauffmann, as the result of a statistical study of over two hundred cases, gives as the modus operandi of the injury: Falling astride a beam or similar hard object, eighty per cent; perineal blows, twelve per cent; run over by vehicles, four per cent; jolting of a rider onto the pommel of his saddle, four per cent.

The mechanism of the injury has provoked much discussion and divers contradictory opinions. We can safely say, as a general proposition, that the mechanism of the urethral injury depends upon the shape of the offending body, and the direction in which the force is applied.

When the injury results from falling astride the narrow edge of a plank or similar object, this is forced upward between the ischio-pubic rami, tears the triangular ligament, and forces the urethra to one side, and crushes it against the ischio-pubic ramus.

Kicks from behind, when the pelvis is tilted forward, rupture the membranous and bulbous portion of the urethra.

Dr. Arch Dixon,* in a recent article, sums up concisely the seat of the lesion: "According to Franc and Reybard, a rupture, resulting from a contusion of the perineum, is most frequently situated in the portion of the urethra which extends between the triangular ligament and the suspensory ligament of the penis. From information gathered at autopsies, and examinations made at the moment when perineal incisions had been practiced, Cras came to the following conclusion: Every time that the examination was made carefully, the bulbous region was found involved. Guyon, in his report on the paper of Cras, adopts the same opinion. Finally, Terillon, relying upon the results of autopsies, upon explorations carried out by surgeons during operations of urethrotomy, and upon his own experience, arrives at altogether analogous conclusions. In contusions of the perineum, ruptures are situated most frequently at the level of the middle or anterior portion of the bulb. There always remains, in front of the triangular ligament, a strip of the canal, having a length which varies from one to three centimeters."

As previously mentioned, rupture of the membranous urethra usually results from fracture of the pelvis or luxation of the pubic symphysis.

Rupture of the urethra may be partial or complete. In cases of only moderate injury, the spongy tissue of the bulb may only be involved, its fibrous investment and the mucous and sub-mucous layers of the urethra remaining uninjured. However, even in these moderate cases, there may be temporary obstruction of the urethra, due to extravasation of blood in the erectile tissue of the bulb. In cases of more severe character there is a solution of continuity through the spongy body and mucous and sub-mucous layers. In the most severe cases we find, in addition to the above, the injury extending through the fibrous sheath surrounding

* Surgery, Gynecology and Obstetrics, Volume IV, p. 1.

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the spongy body, and, consequently, opening up a direct communication from the urethra to the connective tissue of the perineum and scrotum.

The canal may be completely or partially divided, or it may be broken into a number of pieces. More frequently, the injury comprises only the lower and lateral urethral walls. If there is a complete severing of the canal there is marked retraction of its ends, leaving a space between them, from one-half to an inch. The ends may be contused, sharply cut or decidedly disintegrated. At the side of the injury there is always more or less extravasation of blood and urine into the surrounding tissues. If there be extensive extravasation, there will be found a hard, bulging tumor, filling in the loose tissue of the perineum.

Extravasation of the urine, occurring through injury of the bulbous region of the urethra, will follow the space enclosed by the deep layer of the superficial (Colles') fascia. If not relieved, this infiltration extends backward to either side of the rectum, forward into scrotum, and over the body of the pubis: If the injury is confined to the membranous portion alone, the extravasated urine would be confined by the two layers of the triangular ligament and could only invade other structures by sloughing and abscess formation. In all neglected cases there occurs, secondarily, the element of infection, and this may be due to unsuccessful catheterization, or through the use of instruments not surgically clean.

The symptoms of laceration of the urethra are, disturbance of urination, hemorrhage, pain, and the formation of tumor of a greater or lesser extent, at the seat of injury. The pain of ruptured urethra is not in any way characteristic, as there may be intense pain in an injury of moderate extent, and but little complaint in an extensive injury. The act of urination increases the pain, which becomes more intense if retention occurs, and may be due as well to distended bladder as to the direct injury.

The escape of blood from the meatus is always indicative of urethral injury. Blood escaping through the urethra, with the formation of little or no perineal tumor, indicates that the injury is confined to the mucous surface of the urethra. The size and rapidity with which the perineal tumor is formed is indicative of the extent of the hemorrhage. In cases in which the tissues have been contused, rather than sharply cut, it is attended with little loss of blood. If the rupture is posterior to the triangular ligament, hemorrhage will not manifest itself, either at the meatus or in the form of a perineal tumor, but passes backward into the bladder, and involves the deep cellular tissues.

In cases of mild injury and slight laceration of the urethra, the act of urination may be little affected. If the injury is extensive, or urethra is completely severed, with retraction of its proximal end, the patient is unable to void urine naturally. For a time there may be complete retention in the bladder, but, sooner or later, the tenesmus forces urine, in part or entirely, into the peri-urethral cellular tissue.

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The diagnosis is made from the consideration of the history of the injury, the perineal swelling, more or less bleeding from meatus, with more or less dysuria. Complete retention signifies, of course, a serious injury. In the absence of urination, together with the absence of vesicle distention, the diagnosis between deep urethral injury, associated with suppression of urine and rupture of the bladder, will demand further investigation.

The treatment, necessarily, will vary according to the extent of the injury, complications, and the period which has elapsed after the accident before the surgeon sees the patient. Where the injury is slight, in which the function of urination is not interfered with, and hemorrhage from the meatus is moderate in amount, and little, if any, perineal tumor formation, and a catheter passes readily into the bladder, a perineal operation, for the time, at least, is not necessary.

The indications, under such conditions, are rest in bed, urinary antiseptics by mouth, local compresses, hot or cold, as seem indicated, and mild antiseptic irrigation of the urethra. If retention should occur, the tying in of a catheter for a few days is preferable to the irritation necessary to its frequent introduction. Both the bladder and the urethra alongside the catheter should be irrigated several times daily, with boric acid or oxycyanide of mercury solution, one to six thousand. In any case, no matter how trivial, in which there is retention and a catheter can not be introduced, the indication is for an immediate perineal section. In fact, any case in which the wall of the urethra has been completely severed and there is leakage into the loose cellular tissue, the indications are unequivocally for an immediate operation. The mere fact that a catheter, by hugging the upper wall of the urethra, is able to enter the bladder, in skilled hands, is no contra-indication to an operation, as the upper wall of the urethra frequently remains unruptured.

If there must, of necessity, be a delay before a radical operation, and retention occurs, it should be relieved by supra-pubic aspiration.

The operation is conducted precisely as one for stricture of the deeper urethra, and strict attention given to antiseptic details. If a staff or tunneled sound can be passed through the injured section of the canal and into the bladder, the operation is rendered much simpler.

If this can not be done, a Wheelhouse staff, or a good-sized blunt sound, is passed to the seat of the rupture, and the perineum is opened upon this in the middle line, down to the beak of the sound. Ligatures should then be passed, one on each side, which should include the lateral urethral walls. The sound or staff is then rotated, and its beak passed out at the upper angle of the wound. With the sound in this position, and retraction of the ligatures, perfect inspection of the parts is obtained. If the urethra has not been completely severed, no difficulty will be experienced in passing a catheter into the bladder, but with complete rupture, and retraction of the severed ends, the conditions are entirely different.

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Keyes advises the use of cocaine anæsthesia, the advantage being that the patient is enabled to pass urine at will, thus disclosing the location of the retracting urethra. If a general anæsthetic has been given, the fingers of one hand in the rectum, and the other over the hypogastric region, and pressure exerted, may cause a few drops of urine to exude, thus showing the position of the desired channel. If, after patient search, the urethra can not be found, no time should be lost in performing a supra-pubic cystotomy and retrograde catheterization; in fact, the possibility of this resort should always be in the mind of the operator.

The proximal end of the urethra having been found, a soft rubber catheter of about No. 24 French, is passed from the meatus into the bladder, and the edges of the urethra trimmed and approximated by sutures. Over this the peri-urethral tissues are approximated, and the entire wound closed by buried sutures. The catheter should remain in place for about one week, and the bladder and urethra alongside of the catheter irrigated with some mild antiseptic twice daily.

The catheter, thus introduced, serves two functions, drainage of the bladder and as a splint. If perineal drainage only were instituted, we have no assurance that the severed ends of the urethra would remain in exact juxtaposition. The method described is the choice of most surgeons, and has my own preference. Fuller, however, prefers a perineal drain placed in the usual manner, and a catheter passed from the meatus down the urethra to the perineal tube and retained *in situ*. In very extensive disorganization of the perineal tissues this may be the method of choice.

A week after the removal of the drainage tube a moderate-sized sound should be gently passed to the bladder, and repeated every two or three days as long as any tendency to contraction remains. If the urethra has been entirely severed, sounding will be necessary for two or three years, at least, at regular intervals, and then perhaps occasionally during the patient's life.

Where urinary infiltration has existed for some time, and has advanced to abscess formation and extensive sloughing, drainage must first be instituted, and, after the tissues have regained their vitality, the severed ends of the urethra can then be brought together, and treated according to the principles laid down.

1215 O Street.

WHITE WINE WHEY.

The *Pharmazeutische Zeitung* says this preparation is an excellent preventive and cure for diarrhea in children. The method of preparation, as indicated by Doctors Myers and Still, yields a very desirable product. Their directions are: Raise ten fluid ounces of milk to a boil, add two and one-half fluid ounces of sherry wine, and boil the liquid again. Then chill the curdled liquid for three minutes, and strain through muslin. The strained liquid, or whey, contains only about 2.5 per cent of alcohol.

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THE MENOPAUSE—PATHOLOGICALLY CONSIDERED AND ILLUSTRATED BY RECENT CASES.

By C. McKane, Ph. D., M. D., Savannah, Ga.

[Written for the Medical Brief.]

Our modern civilization, with its artificial requirements, imposes unnecessary burdens upon our women. Conditions perfectly natural in their course, physiological in their function, are perverted into serious, if not dangerous pathological phenomena. Why should the commencement of menstrual life, or its ending, be attended with so much complication and misery? It is a remarkable fact, well known to many physiologists, that women in Eastern countries suffer less from complications at puberty, and during the process known as the "change of life." Unlike our women, they live the natural life, hindered neither by dress nor fashion; they breathe easily, freely and naturally an abundance of uncontaminated air, and enjoy the sun and its rays. In their supposed semi-civilized condition, they recognize, unconsciously, certain physiological limitations of their sex, and remain always women. The swinging of the physiological pendulum to either extreme is fraught with much danger. A woman is neither a butterfly nor a doll. Within certain limitations, bearing in mind the difference in anatomical structure and physiological functions between the sexes, a woman's life should be free from the artificial restraints that modern society forces upon her. Nor should she be compelled to bear burdens and exposures that, in the nature of things, men should bear. Many valuable lives are lost during this epoch in the woman's career, when the nation needs her counsel to her sons and daughters. Ripe in experience, sounder in judgment, conservative, resting from her labors, we need her now, and she should be saved.

We are told that in a climate like ours, between the fourteenth and fifteenth years, the majority of girls pass from that stage of playful innocence into a development in which dignity is recognized, and grace assumed, and the reproductive organs, external and internal, have undergone certain changes preparatory to reproduction. Ovulation and menstruation begin, and puberty is attained. Whether the woman has engaged in sexual life, and, in consequence, bore fruit and multiplied the earth, in obedience to the great command, or not, somewhere between forty-five and fifty years, she can no longer be fruitful; the end is at hand, concurrently, both ovulation and menstruation cease. This we call the menopause, or "the end of menstrual life." Of course, there are exceptions to this rule. There can be no fast and ironclad rules in medicine until we know more about physiology. As we shall soon see, every woman is a law to herself. In a normal case, a woman who had been menstruating regularly, observes her "flow" becoming irregular, slight congestion of the abdominal organs, enlargement of the abdomen, with accumulation of gas.

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It is then she is likely to consult us, and seek advice as to the probable date of her approaching delivery. In most instances, she is proud, vain, and insistent, feels life; the breast enlarges, in some instances, and gives prominence to the deception. The careful examiner is seldom led astray. The usual methods of examination will always reveal an empty uterus, congested or well advanced towards atrophy. It will not do to turn these women away carelessly. Unfortunately, there seems to be in the minds of most women that to woman belongs the inherent right to the spring of perpetual youth, and no evidence can be placed on their statement as to age. An experienced observer can, usually, approximate the age, in spite of massage, paint, or powder.

Having satisfied ourselves on the age, we proceed carefully to interrogate the internal organs, obtaining all the information possible from that source. Fact and good judgment must be exercised, and by adroit and sympathetic questioning we receive much valuable information that might otherwise escape us. In dealing with women of all classes, the more gentle and considerate we are, the more successful will we become in treating their diseases. There are times when positiveness and decision are essential, but vulgar brutality and harshness are never necessary. In this connection it might be well to warn practitioners, with large female practice, whether in populated districts or small communities, that it pays to have an assistant within hailing distance. Physicians are not free from envy, intrigue and jealousy, within or without their own profession. This is no new fact to the old medical man, but the ambitious, successful, rising young man, is likely to be brought speedily to grief unless he heeds the hint here incidentally thrown out. For a number of years, both in hospital and private practice, it has been my good fortune to treat many women passing through their climacteric period. Selection has been made from the more pronounced and complicated cases for your study, consideration and reflection.

Case 1—Lizzie K., gave her age at this consultation as thirty-eight years—seven years were added, forty-five years being more nearly the correct age. I had, in former years, treated this lady for minor ailments. She was fairly well educated, a good conversationalist, and well up on the free medical literature sent out by the advertising medical bureaus, with the usual pictures, instruments, etc., for domestic use. Her menses were playing "hide and seek," as she herself expressed it, and she was confident, from the literature read on the subject, that pregnancy existed. Never having been pregnant, she was advised by her husband to consult some woman's doctor, and the lot fell on the writer. General inspection revealed a marked tendency towards corpulency. The facial expression was that of expectancy and anxiety. Percussion elicited no abnormal condition of

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the lungs, but in the region of the abdomen tympanites were in evidence in every direction, save in the naturally dull areas. Auscultation demonstrated feeble heart sounds, more pronounced with the second sound; unmistakable evidences of accumulation of excessive fluid in the abdominal cavity were abundant. The pulse was not strong, with wiry inclination, examination of the pudendum showed swelling and edema. The vagina was hot, sensitive, and rather hyperesthetic; still, the woman was voluptuous, sexual appetite unusually exaggerated and unsatisfied. The husband was unable to meet her demands and rebelled. The midwives had explained that this was one of the demands of the fœtus; however, the husband, who was near at hand during most of the examination, could not understand. "Something must be done," for he was bordering on desperation. The speculum was introduced, and the os and cervix uteri brought into view, disclosing a virgin os, with a long, narrow cervix. Bimanual examination had already informed us of an empty, insignificant uterus, well on its way to retirement. Our opinion was withheld. We sought by tonics to build up, by saline cathartics to rid the abdominal cavity of its fluids, and by bromides to control the unusual sexual appetite until we could honestly and conscientiously make a diagnosis. We grew solemn, but politely remained silent.

In the course of a few weeks our patient disappeared. During the interval many of the local practitioners, including some well-advertised specialists and "cure-alls," had their day. Dr. A. W. McKane and myself were conducting a small sanitarium in the west of the city, about four miles from the City Hall, for the treatment of the diseases of women. April 10, 1904, my former patient applied for admission to our sanitarium, after an absence of several years. Her condition now was much more intense and aggravated, dejected in spirit, moral responsibility lost, with partial paralysis of the muscles of the forearm. The facial expression was that of one who had lost hope in all things, worldly or heavenly. The attendants notified us that she was practicing masturbation. Investigation proved that our informants were correct. Menstruation was absent for three or four months at a time, and when it appeared it was metrorrhagic in character. The uterus was considerably reduced in size. The corpulency was greatly augmented. The mental faculties were very much impaired. From a cultured, refined, ambitious being that we knew in former times, we now had a gross, immoral woman, apparently of the very lowest type of degeneracy. There was no doubt now, to our minds, that we had on our hands a case of a woman undergoing the change of life, with unhappy complications.

Our treatment at the sanitarium was as follows: The diet was non-stimulating, no condiments of any kind, consisting chiefly of fish, fruits, chicken and vegetables, plenty of fresh air, no alcoholic beverages of any kind, pure water and milk, out-door exericse in abundance, when the

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weather permitted, under the care of an attendant. We pushed the bromides to the limit. We used ergot and viburnum in combination, the former to check the excessive hemorrhages and to aid along the natural contraction taking place, and the latter as a uterine sedative and tonic. Iron, nux vomica and the hypophosphites were used as general or systemic tonics. Under this plan of treatment, there was physical, moral and intellectual improvement. Our treatment and observation extended for many weeks, the patient returning to her home. We were again called to see her about the 20th of September, 1907. Menstruation had ceased for about eighteen months or more. She had recovered her former self, and was rational, sane and hopeful; but for a slight irritability of the bladder, brought about by exposure, she was in excellent health.

Case 2—Anna E. B., a native of Macon, Ga., candidly gave her age as forty-eight years. Her apperance showed she was telling the truth—the snowflakes of time were scattered here and there, the telltale wrinkles were not obliterated by the skillful hands of the professional artist. She was a poor woman, the mother of three sturdy young men, and four daughters, who were married and rearing sons and daughters. She began to menstruate at the early age of thirteen and one-half years, and at eighteen years was already married, and had given birth to a son. Hale and hearty all her life, never a pain did she experience throughout her menstrual life, as regular as a clock, unless something was up. "For six months things were acting funny," she explained it. There were pains in her back and head, dizziness, loss of memory, malaise, and a general disposition to shirk the usual household duties. She was no longer interested in sexual life; her husband, who was five years her senior, had lapsed into indifference, so it did not matter much anyway, but the pain annoyed her, and, instead of the flow of four days, with its bright color and regular recurrence, it was a dirty black discharge, that occurred about once in three months, accompanied by a disagreeable pruritus, both anal and pudendal. From a delicate individual she was spreading out in all directions, assuming such proportions that she was alarmed at her own immensity. This lady was a stranger to me. I had to rely on her statements, making my own deductions, here and there, hoping that the physical examination would clear up all doubts, but when we arrived at this stage of the procedure she bluntly informed me that no man had ever examined her, and I should not. I assumed an air of indifference, told her nothing could be done without an examination, and turned my attention to other patients, who were awaiting their turn, and politely bowed her out of the consulting room. Later, I found she was still waiting, earnestly pleading for a prescription, that her description of the case was sufficiently illustrative, that any physician could successfully treat it. Digressing, for a moment, may I be permitted to state that the most dangerous position a

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medical man can assume is to treat patients *in absentia,* or relying only upon unsupported statements. The most careful and experienced men, under favorable circumstances, with the patient before them, fail in making a diagnosis at times, therefore it is essentially proper that at all times, and under all circumstances, we carefully examine our patients, regardless of their statements. Again we listened with patience while our patient insisted on rehearsing the old story. After some delay, we succeeded in examining her, with the following results: The uterus was large and retroflexed, the cervix almost obliterated, the os star-shaped, the remains of a former laceration; projecting from the os was an elongated mass, which, we afterwards discovered, was a polypoid growth; the discharge was offensive and irritating, and was the cause of the pruritus already referred to. This patient was inclined to make trouble, and we were compelled to resort to medical treatment entirely. Relying almost solely on the fluid extract of ergot to expel the mass, by giving a teaspoonful in simple syrup every four hours, during the day; two grains of permanganate of potash, dissolved in a quart of water, was given as a vaginal wash, to be injected, using the ordinary rubber fountain syringe. Tonics were given. In the course of a few weeks the mass was expelled, the uterus contracted, the abdomen reduced in size, and the woman gradually regained her former strength, her corpulency becoming less potent. Menstruation has ceased now for nearly a year. My original intention was to have presented several cases, but I have already exhausted your time, space, and patience. I hope, however, that I have succeeded in calling your attenttion to a class of patients that need more attention than they receive from the average practitioner.

THE TREATMENT OF RINGWORM OF THE SCALP BY THE APPLICATION OF X-RAYS.

By M. Drummond Sale-Barker, M. R. C. S., L. R. C. P.,

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[Written for the Medical Brief.]

The great difficulty which has presented itself in the treatment of ringworm of the scalp has lain in the fact that the actual root of the hair, owing to its depth beneath the surface, is inaccessible to outward applications in the shape of ointments, and it is the root of the hair which is the seat of the fungus. Attempts at curing the disease by the application of inflammatory substances have not proved very satisfactory, and epilation by needling with croton oil is a long and tedious process.

To a child suffering from tinea tonsurans the enforced absence from school is a very serious mater, considering that the disease may run a course passing into years. This disadvantage, at least so far as children

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of the poorer classes are concerned, has been practically done away with by the institution for London of the Metropolitan Asylums Board's Ringworm Schools at Banstead and Witham. The latter has, however, recently been devoted to other purposes. At these schools the children are enabled to go on with their ordinary school work, and at the same time to be treated for ringworm. Here, however, their stay used to run to several months, and often a year or more. When the X-rays were first introduced it was found that their application caused the hair to fall; and, one year after their discovery in 1896 Professor Freund first attempted the cure of ringworm by their use. Dr. Norman Walker, of Edinburgh, was, I believe, also one of the first who tried to cure ringworm in this way. Numerous attempts have been made since, but they have been given up, owing to the difficulty of finding a satisfactory method of measuring the quantity and quality of the rays used.

It was left to Dr. Sabaraud, of the St. Louis Hospital in Paris, to give us a certain way of measuring the rays used in, and necessary for the cure of ringworm.

He does this by means of his "radio-chrometre X," which takes the form of a small pastille, composed of platino-cyanide of barium, which changes color under the action of the rays, according to the quantity and quality given off from the tube.

The action of the X-rays on the scalp is to cause an atrophy of the hair papillæ, and it is of the utmost importance that the dosage of rays given to the patient should be just sufficient to do this and no more, otherwise there may follow an acute dermatitis, causing either permanent baldness or at all events, a long period before the growth of the new hair.

The atrophy of the papillæ causes both the healthy and the diseased hair to fall entire, the latter bringing the ringworm fungus away at its roots, and it is important to remember that the rays do not kill the fungus, so each diseased hair as it falls may be a source of fresh infection elsewhere. It is, therefore, always wise to cover the whole head, whether the disease is universal or not, with an ointment which is prejudicial to the spread of the disease. With regard to the actual procedures of the X-ray treatment of ringworm:

A ten- or twelve-inch spark coil should be used, with a Mackenzie Davidson mercury interrupter, working from four six-volt accumulators and a Muller regulating X-ray tube, the spark gap of which should be kept at two to three inches. The tube should be enclosed in a box or shield, lined with a substance made of a composition of india rubber, which is opaque to the rays, and a round opening in the box, or shield, which is kept at the proper distance by means of three small supports, allows the rays to pass through to the patient's heart. This distance should not be less than fifteen centimeters from the anti-cathode of the tube. The pastille of platino-cyanide of barium, is placed on a small metal slab (otherwise

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it would not change color, owing to the rays passing through and beyond it), at a distance of seven centimeters from the anti-cathode of the tube.

The current is turned on, and the exposure varies from twelve to twenty-five minutes, according to the manner in which the source of the rays is working. For instance, if the accumulators have been worked for some time, and are running down, the exposure takes longer than when they are freshly charged.

The sitting ceases when the pastille has changed to the tint B, of Sabaraud, which is gauged by means of a colored guide, inclosed with each booklet of pastilles. From the fourteenth to the seventeenth day after the exposure the hair commences to fall from the area treated, and in a month from the time of treatment the defluvium is complete, the part being devoid of hair and free from ringworm. It frequently happens that a few atrophied hairs remain in the scalp, but these are easily removed with forceps without breaking.

Some six weeks later, the growth of new hair is usually visible, the new hairs having grown from new papillæ at the bottom of the hair follicle.

Sabaraud, in Paris, works entirely from static machines, two of which at the St. Louis Hospital are kept going for eight hours a day, six days a week; one machine doing about twenty-five treatments a day, and the other fifteen. He marks out the patients' heads in circles, which necessitates twelve or thirteen different areas being treated in a universal case. He estimates that the average time taken to cure a child at municipal ringworm schools in Paris used to be two years, but it has now been reduced to about three months, and the average cost to cure each child has been reduced from two thousand francs to two hundred and sixty francs.

I usually mark out the patient's head into five areas, viz., the top, the two sides, the crown, and the occiput; mark the areas to be treated with blue pencil, the rest of the head is then covered with lead foil, and the area to be treated exposed to the rays until the pastille has reached the correct tint. The essential points in this treatment are, I feel convinced, the correct change of color in the pastille, and keeping the patient's head at the proper distance from the anti-cathode. The hardness or softness of the tube is not such an important factor, except in so far that a soft tube does the necessary work in a shorter time than a hard one.

Of some two thousand cases I have now treated at the Westminster Hospital and elsewhere, about fifteen per cent have had to be treated a second time, owing to a slight overlapping of the lead foil, or to the exposure being insufficient to cause an entire defluvium. This may occur in cases which have undergone a considerable amount of previous treatment, with consequent toughening of the scalp.

The chief points in favor of this form of treatment of tinea tonsurans are:

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1. *Rapidity*—A single exposure to each diseased area is usually sufficient, and as soon as the defluvium is complete the child is cured. This occurs in four weeks, the growth of the new hair takng another ten weeks or so. The average stay of children in the Metropolitan Asylums Board's Ringworm Schools has been reduced from twenty months to just over five months.

2. *Painlessness*—Neither during the actual exposure, not at any subsequent time, do the patients feel any pain or inconvenience; provided, of course, that the exposure is not carried to excess.

3. *Certainty*—With the defluvium complete, the cure is complete, and I do not remember ever having heard of a case of recurrence, which was not obviously due to a new infection.

London, England.

INFLUENZA.

By Jno. L. Robinson, M. D.,

Professor of Principles and Practice of Medicine in the University Medical College, Kansas City, Mo.

[Written for the Medical Brief.]

Influenza is now classed as an infectious disease caused by the bacillus of Pfeiffer. Prior to 1892, no precise knowledge of the etiology of influenza was known. Up to that time all that had been written concerning it had been obtained by clinical studies, notwithstanding the great efforts which were made, during the epidemic of 1889-90, to discover some specific cause of this disease. The usual culture media had been used to develop bacteria, but nothing more than the usual germs of infection could be found in the secretions from influenza patients. It was not until Pfeiffer used the red-blood corpuscles as a medium of culture that he was able to discover the new bacillus belonging to this disease. A further test of the contents of the red-blood corpuscles as a medium, showed that it was the hæmoglobin and iron of the blood that acted as a favorable culture medium; and the richer the blood in hæmoglobin the more active the growth of bacteria. Pfeiffer's conclusions have been demonstrated by others, and today there is no doubt as to the specific cause of influenza.

The life of the bacillus in the culture medium demonstrates the fact that it attacks the hæmoglobin and iron of the blood corpuscles, resembling the malarial parasite in this respect, hence a great similarity in the clinical course of influenza and malarial infections, both acute and chronic. Often we see influenza patients having malarial fever or chronic malaria, when no effect had been manifested since they had been exposed to the mosquito infection. The power of resistance of the influenza bacillus, outside of the body, is not very great. Exposed a few minutes to a heat of 140° F., it is destroyed. In unsterilized drinking water the bacillus dies in

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from twenty-four to thirty-six hours. In moist sputum they preserve their infectivity for at least fourteen days. This characteristic of the bacillus explains the prevalence of influenza in damp, cloudy weather, and its sudden disappearance in dryness and sunshine. It also explains the fact that during times of epidemics, persons confined indoors, such as occupants of asylums, prisons, etc., invalids and old people, are oftentimes exempt from this disease. In fact, the only known prophylaxis against this infection during times of epidemic is confinement indoors, in a warm, dry room. Persons in whom an attack of influenza would be very dangerous, or those subject to recurrence, should be instructed to remain indoors during such times, and during such weather as would develop the disease.

The sputum and secretions of influenza patients should not be allowed to remain moist and preserve its vitality, but should be burned or disinfected. The contagion of the infection enters the system through the respiratory tract. The period of incubation is short, only lasting two or three days. After the germ enters the system through the respiratory tract, the conditions of a general infection are manifested by a varied line of symptoms, no organ of the body being exempt from these complications and their sequelæ. The influenza toxin, expending its force upon different organs of the body, gives rise to a variety of clinical forms of the disease.

The most prominent types of these manifestations are the respiratory form, gastro-intestinal form, nervous, cardiac, typhoid, and rheumatic forms. All of these types have certain general features of invasion that mark the peculiarities of the infection of the influenza toxin. Sudden onset, chill, or chilly sensations, sudden rise of temperature, ranging from 101° to 104° F., supra-orbital pain, pain in the back of neck, general pains in the back and limbs, vertigo, epistaxis, extreme prostration, insomnia, accelerated pulse, and an extreme degree of restlessness. A very red, flushed face, is a symptom given by some authors, also a slight jaundiced effect, is also noted in some cases.

A disturbance of the vaso-motor system in influenza patients is manifested by the tendency to hemorrhage of various organs. We observe this tendency to a greater extent than in the acute exanthemata and other acute infectious diseases, the hemorrhagic character of the various secretions and excretions appearing in the respiratory secretions without pneumonia or tuberculosis. The acute hemorrhagic condition of the brain is, perhaps, the most important of these conditions, the patients often showing early evidence of meningitis, as manifested by severe pains in the head, delirum and coma; or the cerebral complication may not appear until the special type of the disease has seemed to run its course, and the patient has a recurrence of temperature, and all the conditions of a pronounced cerebral intoxication. This condition especially accompanies

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or follows the respiratory type, in which we have an extensive lobular infection.

In some types of the respiratory form of influenza, the question may arise as to whether we have a pneumococcus infection, or an influenza.

It is very important to make a differential diagnosis, for the prognosis and course of the disease is very different in the two forms of infection. All the symptoms and features of the onset of the case must be very carefully considered. Note carefully all the clinical symptoms of an influenza infection. Remember, that in the pneumococcus infection we have an absence of a great many characteristic symptoms of an influenza infection. Remember that in the pneumococcus infection, in a stout, robust individual, we have a sudden and pronounced chill, sudden rise of temperature, and remaining high, pains referred to a definite region of the chest, not diffuse or radiating; a rust-colored sputa, not simply streaked in the expectoration, as occurs in influenza infection.

The physical signs in pneumococcus infection are, as a rule, confined to the lobes of a lung, while in influenza it is lobular, occurring in patches, here and there, in both lungs. The stage of consolidation in influenza is not marked to the extent that we see it in pneumococcus infection, hence an absence of bronchial breathing and flatness on percussion. In influenza infection we have a diminished respiratory murmur, and an abundance of crepitant, subcrepitant, and mucous râles over the affected areas during the course of the disease until complete resolution.

In the typhoid type of influenza the infection assumes a typhoid state. We have in this class of cases a continued fever, somewhat irregular; intestinal complications, dry, coated tongue, and the typhoid nervous state.

It is often very difficult to make a differential diagnosis in the first week of typhoid or influenza infection. By noting carefully the characteristic features in the onset of the disease we will be able to make a diagnosis in the great majority of cases.

In the cardiac form of influenza, the infection spends its force upon the myocardium, producing a rapid, weak pulse, great distress, and heart failure.

In the gastro-intestinal form we have a catarrhal condition of the stomach and intestines, accompanied by vomiting, diarrhœa, extreme prostration, pains in abdomen, and, in fact, the symptoms resemble those of cholera or ptomaine poisoning. This form occurs more often in children.

In addition to the various types of acute infection of influenza, Pfeiffer and others have demonstrated that we have a variety of chronic forms. The influenza bacillus has been found in the affected organs of acute cases for weeks and months afterwards, and our clinical experience with the results of acute cases will bear out this statement.

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In the acute respiratory form, in which we have a low power of resistance in the lung tissue, we often have chronic respiratory conditions, resembling tubercular infection, both in physical signs and the general condition of the patient. Repeated examinations of the sputum reveal the influenza bacillus, and absence of tubercle bacilli. It has also been demonstrated that, in cases of known tubercular infection, that the influenza bacillus remains in the tubercular processes after an acute attack of influenza; the case then becomes one of mixed infection, and progresses rapidly. The influenza bacillus will often light up a latent or arrested tubercular process by rendering tissue soil less resistant to the tubercular infection. We have all had the sad experience of having our good work on an arrested tubercular process overthrown with a single attack of influenza.

In the treatment of influenza no remedies have been found at this time; that is, no remedy that will weaken or destroy the bacillus in the blood, or counteract its toxin. The treatment will depend upon the condition of the individual types. Remaining in the house in a warm, dry room, is the most important element in prophylaxis. In the respiratory forms we must use pulmonary antiseptics and inhalations; in the gastro-intestinal forms, gastro-intestinal antiseptics. Use strychnine in cases of great prostration. Above all things, use forced nourishment to combat the destruction of the red blood corpuscles.

Altman Building.

"WHERE ARE WE DRIFTING?"

By Brose Horne, M. D.,
Late Maryland State Prison Physician, Gas City, Md.

[Written for the Medical Brief.]

If we investigate through the vast domain of historical medicine, we discover that there has been a habit, not only in the past, but at the present time, to look upon disease as an entity, and prescribe for disease by name. This system has come down to us from the "Dark Ages," and is the most prominent cause of the degeneration in the art. A nosology is evolved, founded wholly upon symptoms. The physician then strives to find a cure for the disease by name. That there are no specifics for disease by name should ever be remembered. Physicians have looked upon disease as a bodily substance, a personal, although intangible, existence. Disease is not a material thing, as a stone, as a fluid to the psychist, or a vapor or gas to the chemist. The fact that the ancients looked upon disease as a personal substance, a demon warring upon the body, caused them to search for something to drive it out. This idea of ejectment, like a policeman would take a thief from your house, laid the foundation for a false system of practice that has not only made a war for all these years against all reforms, but has made attacks against

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the vital force in the human body. The investigators and scientific (?) advocates of each age have become tinctured with this ancient error, and instead of studying disease processes for therapeutic advancement have come under the hypnotic spell of nosological therapeutics. As a result, brilliant men otherwise have spent a life-time in searching for the "fountain of youth," or an "elixir of life," etc. We smile at this system of the ancients, many of us—but beware! These old-time opinions about the nature of disease have a strong bearing in the practice of today. The old dogma has clung fondly to us. The "ready-made" "hand-me-down" tablet system with the name of the disease on the bottle; the "ready-made" prepared formulas bottled and ready for use to fit each named disease, is the tail end of the evolution of this harmful system. Commercialism, in her shrewd fashion, has taken advantage of their systems and has encouraged the routine dabblers in physics—the easy "go-as-you-please" physicians—to accept their method. He who prescribes for names is in the majority. He rules the medical world, examines us, controls our liberty and influences the medical press. Yes, my friend, the practice of prescribing for disease by name and the hunt for a specific for an isolated malady, the seeking for information as to what particular recipes will cure this or that malady, etc., is not a part of the rubbish of the dim past, but a live, a living fact of today, ever ready to assert its boldness and combat natural medicine. Open any of our text-books and you will find nosological therapeutics advocated from the first page to the last.

The study of disease by name has become so deeply ingrafted upon the profession that I fear it will never be laid aside. The majority will always follow the easy method and continue to be ruled by medical commercialism. If this system continues, the work of our true reformers will not be able to stop the decay of the art. It seems difficult to convince the practitioner of the great necessity of separating nosological therapeutics from direct (specific) therapeutics, and nosological diagnosis from therapeutical diagnosis. The universal cry of humanity is for the cure of disease. The object of the physician is to heal. Therapeutics is the foundation of the art, but if the germ of decay is gradually causing the foundation to crumble, oh! where will end the science of medicine that has at its base the good of humanity? Sad as it may seem, any honest investigator must admit that it has almost become a universal habit, especially in the smaller cities, towns and rural districts, where physicians do their own prescribing, for physicians to follow this false system. Instead of being original and undertaking to prepare their formulas for each individual case, we find them prescribing "hand-me-down" "ready-made" tablets, and disputing with each other over some nosological classification. Not until physicians refuse to be influenced by so-called "authorities" in medicine will they progress.

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In considering this subject I do not speak from the standpoint of any "ism" or particular school in medicine, nor from prejudice; far from it; but to me it appears as a conviction—a truth—that should ever be dwelt upon and repeated until the whole world will cry out in protest against this "pseudo-science." Nosological therapeutics is an enemy to the science, and has been kept alive by so-called "authorities" in medicine. Practitioners have been bound down to a sort of mechanical stupor in following "authorities," and in sinking into a routine practice which dwarfs the reasoning faculties and abases judgment." As an illustration, take Dr. Osler, a fine man, an intelligent fellow, who, without a doubt, means well and does injury to the science only through neglecting the study of true therapeutics. I admire this man and many of his writings. Take this saying of Osler: "Banish the future; live only for the hour and its allotted work. Think not of the amount to be accomplished, the difficulties to be overcome, but set earnestly at the little task at your elbow, letting that be sufficient for the day; for surely our plain duty is not to see what lies dimly at a distance, but to do what lies clearly at hand." This, with many of his other sayings, is beautiful and stamps him as a man of power, but his work for direct medication has been of no use whatever. Osler fulfills a period in medical evolution; he meets a demand of this period and rides a popular wave to fame. For years he has been looked upon as a "God in medicine;" his Text-book on Practice (better Mal-practice) has been used in all schools of medicine. Even the homœopaths and other schools used him as reference, and made "goo-goo eyes" at him. No one dare object to Osler, but if we examine the man's book closely, we discover that his work is not new, but, on the contrary, very old. He is simply a compiler of nosological doctrines. He never said a thing in his life but what has been said before, and, in fact, said much better. He is the advocate of the highest type of nosological therapeutics, and, in fact, his system is to be admired when compared with the "old system" of heroic medication from the fact that he preaches a "do-nothing plan"—a form of Christian science system hidden under a scientific (?) veil. He has simply compiled all of the nosological theories into a book, and by a peculiar hypnotic influence placed himself at the front of the mob of routine practitioners who have accepted his commands.

On his departure a few years ago for England, Osler made a speech in Baltimore, called the American physicians everything but scientific, made many foolish remarks and praised the continental schools of medicine. It was indeed amusing to notice the attacks, excuses and mental contortions of those who had worshiped this "false god of medicine" after his departure, but those who had followed him were forced to suffer from the insults and pay the penalty for their folly. There is no question but that the continental universities are degenerating, and

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Osler, if he had remained, would not have restored true therapeutics. American medicine will lead the world, but such men as Osler do not represent American medicine. He is the remains of an old dogma that came down to us from the Dark Ages. When Osler departed one great man said, "It is a blessing to this United States that this intellectual prostitute has left our shores. May he never come back." But, true to the old adage, "the cat came back."

Senator Stewart, of Nevada, after reading Dr. Osler's speech, gave out the following interview (February 26, 1905): "I am glad the Doctor has given us the key to his numerous failures. I am sorry that a crank of his type treated Senator Hanna, Speaker Reed, Postmaster-General Payne, and other distinguished Americans. A man of sense might have saved them to the country. I hope the English people will treat our contribution to their collection of insane or cracked frauds as the act of the Doctor himself, and will not charge such an exhibit to the people of the United States. We thank the Doctor for unloading Johns Hopkins from an incumbrance with which it has been struggling ever since he became connected with that institution."

Dr. Osler is not insane or a "cracked fraud." He is simply a brilliant man who has become enchanted with a false system of practice. There lurks in my soul a kind feeling for the Doctor, as I was nursed in my early medical career from an "Osler bottle;" but I can not forgive his teachings for blinding me so long and keeping me from recognizing the true light of therapeutic progress. I do not wish to slander; far be it from me to depreciate any good work. But here is the work of an "authority" in medicine. His theories, through some power of public hypnotism, have injured the true practice of medicine in the world, and have perpetrated a false doctrine and helped fasten another link on the chain of nosological therapeutics which already binds the medical art so tight.

American medicine should not be represented by such a pseudo-scientist as Osler. We have a natural law in medicine. We have profited by the mistakes of our ancestors, and by (1) experience, (2) observation, and (3) reason, evolved an American system of practice that can and does exist, irrespective of theories and methods of foreign countries. It is true that our country is flooded still with the degenerative influences of foreign doctrines, and with physicians who like to ape the so-called scientists of continental universities; but, thanks to the influences of American independence, we have a few unprejudiced and sincere physicians in this country, who have, by perseverance and force of character, kept alive the basic or essential principles of true scientific medicine. As the Eastern doctrines decay, the Western develop. Taking a lesson from the errors, misunderstandings and false doctrines of the East, sifting out the good from the bad, we discover that the star of true scientific medicine is in the West, and as time goes on it will shine brighter and brighter.

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NORMAL FIXATION OF THE UTERUS.

By Byron Robinson, B. S., M. D., Chicago.

[Written for the Medical Brief.]

(Continued from January number.)

We will here devote some space to the theoretical and practical views of the several uterine ligaments.

My claim is that ligaments (fascia), support, muscles contract and relax.

(A) LIGAMENTA LATA.

The ligamenta lata is the transverse supporting beam of the cervix.—The ligamenta lata uteri, or broad ligaments of the genitals (uterus, oviducts and ovaries), are the mesenteries of the uterus. They consist first, of two external layers of peritoneum (mesenterii membrana peritonei), which cover the dorsal and ventral surface of the ligament and external from the lateral uterine border to the lateral pelvic wall. Second, they consist of a middle layer (mesenterii membrana propria), which is composed of connective, elastic and muscular fibers maintaining in ordered plans the vessels (blood and lymph), nerves and fœtal remnants (mesonephros). The ligamenta lata is also a guy-rope for the uterus. From the beginning a majority of authors have attributed extraordinary powers of support to the uterus by the ligamenta lata. A minority of writers have denied the ligamenta lata had practical power of uterine support. Between the majority and minority of authors there is generally a safe mean. There are two segments of the ligamenta lata, viz.:

(1). The base, a strong mass of tissue which transmits the vessels, nerves and ureter. The base of the ligamenta lata is not infrequently known by the eponym, Kock's ligamentum cardinale uteri and Mackenrodt's ligamentum transversum. The base of the ligamentum latum is the chief supporting portion of the uterus. The principle suspensory apparatus of the uterus is the base of the ligamentum latum. All other suspensory uterine supports are secondary, accessory, subordinate in signification. The ligamenta lata prevent uterine torsion or latero-version. The proximal segments of the ligamentum latum transmit the oviduct, and is limited in suspensory power of the uterus. It is a slack guy-rope. In short, the ligamenta lata are the chief transverse supporting beams, or suspenders of the uterus, and the most important factors in maintaining the cervix in the normal position. The ligamentum latum is a compound structure composed of two layers of mesenterii membrana peritonei and a middle layer, mesenterii membrana propria. It includes, between its blades, the *Wolffian body* (*a*), pronephros; *i. e.*, its ductal remains—the oviduct; (*b*), the mesonephros; *i. e.*, its ductal remains—ep-oophoron, or Gartner's ducts, with its vertical tubules; (*c*), the metanephros; *i. e.*, the ureter, the genital *vessels* (lymph and blood), *nerves, muscular, elastic* and

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connective tissue. The base of the ligamentum latum consists of a maximum collection of tissue and organs which extend from the lateral cervical border to the pelvic wall. The base of the ligamenta lata constitutes a supporting beam for the cervix. Dr. Frank P. Foster, of New York, announced years ago that the vagina and the ligamenta sacro-uterina form a supporting beam for the cervix. Foster's claim for a dorsal-ventral supporting for the cervix is exactly what I claim, that the ligamenta lata is a transverse supporting beam for the cervix. The supporting or suspensory power to the uterus of what I term the transverse supporting beam of the cervix (*i. e.,* the ligamentum cardinale uteri—Kock's—or the ligamentum transversum—Colli-Mackenrodt's) is composed of different structures which, analytically, must be exposed to realize their elementary influence.

1. There is a mass of connective and elastic tissue—a strong band extending from the lateral border of the cervix uteri to the lateral pelvic wall.

2. There is the "tunica vasorum uteri," the vessels (lymph and blood) and nerves which exercise considerable influence in uterine suspension.

3. There is the limited quantity of muscular fibers lying between the blades of the ligamentum latum. The special power of the "transverse supporting beam" of the uterus lies in the fixation of its cervix to the lateral pelvic wall.

LIGAMENT OF HYRTL, KOCK AND MACKENRODT.

So much significance has been attached to the ligamentous apparatus of the uterus that three physicians possess eponyms referring to its support: Hyrtl, Kock and Mackenrodt made a special study of certain ligaments which they viewed as of maximum importance in uterine support.

Mackenrodt, a gynecologist of Berlin, called it "ligamentum transversum colli," or Mackenrodt's ligament. This is simply the base of the ligamentum latum, with its elastic and connective tissue, muscle strands, vascular and nerve bundles. Kock, a German gynecologist, called it *ligamentum cardinale, or Kock's ligament.* This is practically the same as Mackenrodt's ligament, or what I have been naming the transverse supporting beam of the cervix.

Hyrtl called it the *ligamentum pubo-vesico-uterinum,* or Hyrtl's ligament. This ligament extends from the uterus to the bladder and pubis. It may be viewed as an antagonist to the ligamentum sacro-uterinum. By its contraction it anteposes the uterus. From its minimum structure it possesses a minimum fixation power (Joseph Hyrtl—a Viennese anatomist). We may conclude, from a study of the uterine ligaments, that neither the peritoneum nor the uterine ligaments can exercise significant

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supports over the uterus, which describes such extensive excursions painlessly within the zone of health. The excessive slackness of peritoneum and ligaments prohibits them from being a sufficient fixation apparatus to maintain the uterus in anteversion during gestation. I am not convinced that it is true. During gestation the round ligaments do not become tensionized; when spanned, they elongate and hypertrophy; hence, there exists practically no difference between the round ligaments during uterine quiescence, or during uterine gestation. During the puerperium the round ligaments atrophy, involute with the uterus; hence, no influence over the position in the puerperium is exercised by the round ligaments. In autopsy, during puerperium, I have not been convinced that the round ligament was distended or stretched. At that time the uterus practically completely occupies the lesser pelvis, and does not require any dragging to antevert it. As a student of anatomy and gynecology I am convinced that the ligamenta rotunda uteri are not agents which suspend the uterus or maintain it in position. In fact, the uterus rests more proximalward than the distal ends of the extended ligament. The uterine ligaments are similar to the intestinal mesenteric attachments, viz.: To prevent entanglements of viscera, and to limit, like a tether, the zone of health. The functions of the uterine ligaments are limited to a minimum influence in the uterine fixation, for the uterus does not rest in an empty space; other organs hinder it from excessive distalward displacement. If the uterine ligaments are placed on tension, they extend, stretch and yield. In fact, matters are pathologic when the uterine ligaments support the uterus, and every gynecologist knows how poorly the uterine ligaments support the uterus when the suspension is pathologic.

(c) LIGAMENTA ROTUNDA UTERI.

The round ligaments of the uterus are practically more significant than any other uterine ligament, because of their enforcement into surgical procedures. Authors become divided into two divisions in regard to the signification of the round ligaments. I shall assume, after considerable study of the round ligaments, that: first, they are not uterine supports, and should be disregarded as uterine supports, and, second, they have practically no influence over the normal position of the uterus. If one opens a cadaver it will be evident that by no kind of uterine movements can the round ligaments be demonstrated as uterine supports. During peritonotomy the round ligaments remain slack in a curved state. By forcing the uterus dorsally in the cavity of the sacrum, the round ligaments become placed, on limited tension. During lateral uterine movements, as well as during distalward movements of the round ligament, they remain slack, untensionized. The round ligaments are *irrelevant* to the normal position of the uterus. By removal of the oviducts and a segment of the round ligament, the uterine position is practically not

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changed, except in accentuation of uterine anteversion. As to the round ligaments producing or maintaining the uterus in anteversion during gestation, I am not convinced that it is true. During gestation the round ligaments do not become tensionized. The round ligaments do not become tensionized, spanned, elongate or hypertrophy. Hence there exists practically no difference between the round ligaments during uterine quiescence or during uterine gestation. During the puerperium, the round ligaments atrophy, involute with the uterus; hence no influence over the position of it is influenced by the round ligament during the puerperium. At autopsy during puerperium, I have not been convinced that the round ligament was distended or stretched. At that time the uterus practically occupies the lesser pelvis, and does not require dragging to antevert it. As a student of anatomy and gynecology, I am convinced that the round ligament is not an agent to support the uterus or maintain it in position. If it be true that the round ligament possesses practically no influence over the normal position of the uterus, either as a suspension or fixation apparatus—a matter I have taught for some fifteen years—it behooves us to abandon an unnecessary and harmful operation, viz.: The Alexander operation. To suspend the uterus by the round ligament is like undertaking to keep a man's hair of proper length by clipping it every four or five months—the operation should be repeated likewise. The Alexander operation is permissible for hygienic reasons, *i. e.*, to obtain therapeutic suggestions and rest in bed a few weeks.

It is mistaking neurology for gynecology. It is a mistake, for mobile uterus requires neither surgical nor medical treatment. Hysteropexy, by means of abbreviation of the round ligaments, will pass into oblivion like normal ovariotomy; like circumcision; like the abused trachelorrhaphy; like the cruel curettage. Hysteropexy, by all means, is irrational, as it substitutes one pathologic condition (alleged excessive mobility) for another (that of fixation). Fixation of any viscus is irrational as it is ungynecologic.

(To be continued.)

TREATMENT FOR WARTS.

In the treatment of warts on the hands and lips, Mantelin, in the *Bulletin Générale de Thérapeutique,* recommends both local and internal medication. He directs that nine grains of magnesia be taken every day, and that the following collodion be applied to the warts:

Chloral	90 grains.
Acid, acetic	90 grains.
Acid, salicylic	60 grains.
Ether	60 grains.
Collodion	225 grains.

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NOT DIAGNOSIS, NOR THERAPEUTICS.

By R. B. Elderdice, McKnightstown, Pa.

[Written for the Medical Brief.]

The business or financial side of the medical profession has of late been pretty well discussed in society meetings, and elesewhere, and the general concensus of opinion seems to be that we doctors "get left" more frequently than any other class of business men. There is also much said about the duty of the physician to the public, and the public usually has plenty to say. If the grocer, butcher or merchant refuses to "deliver the goods" without the cash to persons already owing him a long-time unpaid bill, the only comment we are likely to hear is: "What else could they expect, if they won't pay?" *But,* let a physician refuse to attend those "no-pay beats" and these same people will be "up in arms," and say the *doctor* should respond to their calls, at all hours, in any kind of weather, as promptly as if they were his best-paying patrons, and expect him not only to give his time and work, but also to furnish them with free medicines, both when seeing them and on any office calls they may choose to make. And nine of every ten of these people *could* pay if they would. When he wants some wood sawed, or any little job done, these folks *can't do it*—they must loaf at the village store or shops, and he may hire some one who *does* pay his bills to do the work. This is *fact,* not fancy, and a frequent experience. When you have a chance to do worthy people a charitable action, *do it,* and let them see that you do it with a good grace and a good will, saying nothing, either then, or ever, about it. But "business is business," and I wonder how many of you can think of the time (or, fortunately, can not) you attended Mrs. A. in confinement, for the second or third time, without any pay, and never expecting any, and while so doing, Mrs. B. in one of your best-paying families sent for you in like case. Finding you, likely, some miles away, and no certainty of time of your return, she had to have "some one else" called in your absence, when you've lost the fees in the case, and like enough (if the doctor called was near-by), the future practice of that family; as I notice, it is the *woman* of the house who usually selects the family physician. But, people will say, "are you going to let the poor woman suffer without help?" She *should not,* but place the responsibility where it belongs, on her husband, and if he is a loafer, place it on the county, where it belongs—*not* on the near-by doctor. The county is the proper medium for the care of such unfortunates, and the community (or the county), can more readily bear the burden than can the few physicians of a county. In some sections, medicine and attendance for those unable to pay is paid for by the public authorities, at a reduced rate. This *should* be done in every county in the United States, as has long been done in all the principal cities. We doctors all pay our taxes, and why we should be expected to supply medicines

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and services worth many thousands yearly, free of all remuneration, is a conundrum I can not answer. The reason why we are the only business men in the world with this state of affairs to hamper our advance in the world's prosperity, is simply our own fault and that of our predecessors. I never heard of very many of us getting free of charge our dry goods, groceries, drugs, clothes, horsefeed, buggies or blacksmith bills, not to mention life insurance; and there is no reason why any one should expect a physician to give his time and best skill to any case free of charge, any more than they would a legal gentleman to handle their case in court without a fee; which he could do without exposure to cold, rain and storm, and without loss of sleep. If any State in the Union, with its hundreds of thousands' population, or their counties, with their thousands, can not afford to pay for the medical care of the poor within their borders, they *can not expect* the few doctors in their jurisdiction to assume the burden. I am quite well aware that every county has its almshouse, as well as its jail; each with its county infirmary, and that all cities have the same, with numerous hospitals and free dispensaries. But the greater number of the poor in *all country* districts, are *outside* of the "poorhouse," living from "hand-to-mouth," and when they become ill (as they are sure to do), the care, trouble, and in most cases, the expense of their medicines, falls, *not on the community* they honor by their presence, but upon the hard-working, under-paid country or village doctor. I think eight of every ten men who have been in country practice from ten to forty years, will say this statement is about correct. Pure food laws, sanitary inspection and *preventive* medicine are paid for by many of the States, and why not curative medicine? Much has, at various times, been said of the "duties of the physician to the public," and I have a faint idea that there might be *just a little bit* said about the duty of the public to their physicians. Often the man who joyfully hands his (or, rather, *her*) pastor a handsome fee for a ten-minute wedding ceremony, will later on (usually about ten months), think the doctor's fee of one-half, or, perhaps, one-fourth of that amount, for hours of hard work, and likely the loss of a night's sleep in aiding the safe arrival of his first-born, is entirely too much, and either want a reduction, or make him wait a year or so for his fee, or move away and forget to pay the bill. I have known a case in which the parson received a $50.00 fee while I was begrudged the $10.00 I finally got with difficulty, for a much more strenuous job than his. But, then, things were *different* on these two *festive occasions.* You've all, no doubt, "been there," and know that such things *do* happen. The *New York Law Journal* says: "The charges of physicians should be fixed according to the practitioner's standing and experience, and the amount of labor involved." *The Medical Review* says "the man who makes calls for reduced fees is a man of *limited ability* or *inferior character* (God's truth), and in doing so shows he thinks he is worth less than his

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colleagues." The public should consider the *time* and money required to obtain a medical education, and that *this,* plus library, instruments, office and driving equipments, will run up into several thousand dollars, which represents (plus what brains he may have) a doctor's capital invested in this professional business, and he should earn something more than a skilled mechanic, who has no thousands invested in learning *his* craft, and usually but about one-half the number of years required to do so. An ordinarily good mechanic, working eight hours a day, earns about $1,000 to $1,200 a year, and loses no sleep while doing it, and gets his meals regularly, and his pay weekly or monthly; but how is it with the physician? He works at any and all hours, whether "dead tired" or not; eats when he can, and takes his pay when (often how) he gets it. And there are plenty of country (and some city) doctors whose yearly income is not over $1,000 to $1,200. Doctors, like other workmen, should be judged on the merits of their work, and not because of membership in some church or order. I have more than once heard of physicians, in settling an account, say "your bill is $50.00; give me $35.00 and we'll call it square;" and this, too, with people who *could* pay; and, when later, they died poor, and left their families illy provided for, I did not wonder. I never heard of their grocer, butcher, or merchant having settled with *them* in that way—if any one has, please let me know.

A good many men respond to *all calls,* pay or no pay. The idea seems that their buggy being constantly seen on the street or road, is evidence of what a tremendous business they are doing, and is quite an advertisement. The results are that they are *so busy* they have very little time to "read up," or study, and so get into a rut, and they only collect about fifty to sixty per cent of their hard-earned bills, doing two dollars' worth of work for one. Not only that, but they rush, overwork and break down twenty to thirty years before they *should,* and by the time their life and work *should* be of most value to their communities, they are either dead or "laid upon the shelf." I have personally known well several such men, two of whom died from overwork, exposure and irregular hours before in practice ten years, and others who were compelled to quit practice in that time, or sooner.

PILLS OF AMMONIUM EMBELATE.

Dr. Wisener, in the *Pharmasvet Journal,* recommends the use of pills made after the formula below, as an effective vermifuge. He directs that the patient be put on a strict milk diet for three days; then he gives ten pills to an adult or five pills to an infant, in the course of one day. He completes the treatment the next day by administering a good dose of castor oil.

Ammonium embelate ..... 1 grain.
Gum arabic powdered, syrup of acacia, q. s. Make 12 pills.

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CURRENT MEDICAL LITERATURE.

FRIGIDITAS UXORIS, SOCIOLOGICALLY AND MEDICALLY CONSIDERED.—R. W. Shufeldt (*Pacific Medical Journal*, November, 1907) states that *frigiditas uxoris* has been but lightly touched upon by the standard writers, even Krafft-Ebing, in his "Psychopathia Sexualis," dismissing the subject in the following few lines: "The *naturæ frigiditas*, of Zacchias, are examples of a milder type of anesthesia. They are met with more frequently among women than among men. The characteristic signs of this anomaly are: Slight inclination to sexual intercourse, or pronounced disinclination to coitus without sexual equivalent, and failure of corresponding psychical, pleasurable excitation during coitus, which is indulged in simply from a sense of duty. I have often had occasion to hear complaints of this from husbands. In such cases the wives have always proved to be neuropathic *ab origine*. Some were, at the time, hysterical." The writer claims that this condition is on the increase among American-Aryan married women; that it is due, anatomically, to degeneration, or preputial adhesions about the clitoris; that fully seventy-five per cent of married women have no sexual appetite, or at least but little. He questions the institution of marriage as being successful, from a monogamic standpoint, on this account. He endeavors to explain the great number of divorce cases on this ground, *i. e.*, that coldness on the part of the wife leads to infidelity on the part of the husband, this, in turn, leading to a break in the home life, and, consequent divorce. Upon frigiditas uxoris, this writer practically lays the blame for all the ills that present-day society is heir to. The picture, as painted by him, is a dire one, and tends to fill us with poignant concern. Let us hope that he is mistaken, and that his statistics, like all statistics, "do not adhere closely to the lines of veracity."

THE INDICATIONS FOR AND AGAINST REMOVING ADENOIDS, AND METHOD OF OPERATING.—Samuel W. Thurber (Archives of Pediatrics, January, 1908) describes the operation for removal of adenoids and indications for treatment. He says an adenoid is an overgrowth of glandular tissue in the nasopharynx. What constitutes a normal pharyngeal tonsil is hard to say. Indications for treatment by removal are based upon the symptoms produced. They are:

1. Nasal obstruction, causing (*a*) broken sleep, struggling for breath, nightmare. (*b*) Anemia and general debility. (*c*) Malnutrition and stunted growth. (*d*) Headaches and poor memory. (*e*) Snoring. (*f*) Enuresis.

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2. Mouth-breathing, with the attendant chronic pharyngitis, laryngitis, bronchitis, and croup.

3. The presence of adenoids, causing: (*a*) Thick speech of nasal quality. (*b*) Inability of infants to suck. (*c*) Frequent colds or a chronically-running nose. (*d*) Deafness. (*e*) Gastric trouble from swallowing nasal discharge. (*f*) Epistaxis. (*g*) Anosmia.

4. Reflex conditions, sometimes due to the presence of adenoids: (*a*) Asthma. (*b*) Hay fever. (*c*) Stammering. (*d*) Epilepsy.

Another indication is a narrowing of the upper jaw, and irregular crowding of the teeth. From a given permanent incisor or molar, a dental arch curve can be mathematically plotted, and this curve is always a well-rounded one in front. The high, narrow arch is abnormal, and often seen in idiots. Secondarily, in these cases we may have deviated nasal septa.

CONTRAINDICATIONS.

Do not operate during acute conditions, coryza, etc., else new avenues of infection may be opened for the streptococcus or pneumococcus.

Do not operate on children who have grave constitutional disorders, such as hemophilia, nephritis, diabetes, leucemia, syphilis, or tuberculosis.

Do not operate just because there are *some* adenoids present, when the obstruction really is due to something else, such as enlarged turbinate bodies, deflected septa, new growths, or even foreign bodies. Large faucial tonsils may also be the cause of the obstruction, not the small adenoids.

Be sure the adenoids are the cause of the reflex symptoms. Make a thorough physical examination to determine this point.

Again, it is not a good plan to operate during epidemics of the infectious diseases, especially upon school children.

These cases should be operated upon early. In infants and very young children, no anesthetic is necessary. The writer prefers ethyl chlorid as an anesthetic in older children. It is prompt, does not stimulate buccal secretion, lasts long enough to perform the operation, and is not followed by nausea or vomiting. It is given from a tube of kelene, sprayed on a special mask, or on an ordinary chloroform mask.

The curette is the best instrument, a modification of the original Gottstein instrument.

MORPHOLOGY OF A CILIATE INFUSORIAN.—Henry G. Graham, M. D., Bellwood, Neb. (*Lancet-Clinic,* November 2, 1907.) This is a paper submitted to the Mississippi Valley Medical Association in competition for the One Hundred Dollar Prize offered for the best original contributions. It is an interesting description of the method of study of protozoa. He describes the means by which protozoön forms may be observed: a number of beads flat on the surface, with as many grains

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of some cereal, as wheat or barley, are strung upon a thread, a bead alternating with a grain of the cereal. When the thread so prepared is of sufficient length, its ends are tied and it is laid in the form of a circle at the bottom of a shallow vessel. This is placed under the tap, and the water turned on. Cover-glasses carefully cleansed in a solution of a mineral acid are placed in a circle so that each grain of the cereal rests upon the center of one. The beads hold the thread firmly in place, while the grains of wheat or of barley attract to them the protozoa, which hover about and feed upon the cereal. These grains also prevent the washing away of the glass circles by the current of water.

If too large a number of microscopic forms collect upon the cover-glass, it is better to put only beads upon the thread and to place the cover-glasses under a bead. Or tiny cups may be used; a cover-glass placed at the bottom of the cup and a fine-meshed cloth tied over the top.

After twenty-four hours a cover-glass is removed for examination under the microscope. Should an animalcule have fixed itself to the surface, it is put back again to await development. It is advisable to have two circles of beads, new forms to be caught under the first, their development to be watched under the second.

If a form is caught that it is advisable to preserve, it is dried at room temperature, stained in the flame and mounted in Canada balsam. It is well to employ some constant differential stain, such as carbol-fuchsin and methyline blue. If no object of interest is found on the cover-glass, it is better to reject it. In the removal of cover-glasses, the circle should always be traversed in the same direction. In this way the forms under observation will more closely resemble those immediately preceding. The interval of time for their removal should also be constant. A new series may be commenced in the first series after a number of cover-glasses have been removed. A single species should be isolated and cultivated to the exclusion of all other forms, but many difficulties are in the way. Three conditions that must be met with are: The organism must be grown in living water; it must have free access to atmospheric air; isolation must be maintained for a long period of time—for months, or even years.

In general, it can be concluded that (*a*) the protozoa, in rounding out their life cycle, under proper environment, produce their young so as to appear exactly like the pathogenic bacteria in form, size and staining properties, and are demonstrable to the eye; (*b*) the protozoa have the same action upon laboratory animals that the pathogenic bacteria have upon man; (*c*) naturally the inference drawn from these facts is that the forms derived from the protozoa and the pathogenic bacteria are identical.

FATAL HEMORRHAGE FROM A DUODENAL ULCER AFTER APPENDECTOMY.—Richard Mühsam, M. D., Berlin, Germany (*Deutsche Med. Wochenschrift,* 1907, No. 31), gives an account of a most in-

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teresting case of fatal hemorrhage from duodenal ulcer, after an appendicitis operation. He says that as early as 1899, von Eiselsberg called attention to stomach and intestinal hemorrhages after abdominal operations. He detailed seven cases (four of which were fatal) in which hemorrhage occurred after laparotomy, mentioning one case in particular, where erosion of the arteria gastroduodenalis occurred from an ulcus duodeni, eight days after an operation for carcinoma of the right tonsil, the right gum, and right side of the pharynx. In six of these seven cases, there had been resection of the omentum, and division of the mesentery.

Busse collected from Eiselsberg's clinic ninety-six cases of post-operative stomach and duodenal hemorrhage, and quoted the experimental work of numerous writers on this subject, Friedrich, Hoffman, Engelhardt, and Neck. In these cases necrosis of the liver and gastric ulcers followed in the wake of the resection of the omentum. The narcosis did not seem to influence the condition at all.

These changes followed closely upon the retrograde embolism from thrombosis in the omental blood vessel stumps (Engelhardt and Neck). These emboli are found in the venous, as well as arterial vessels, bacteria not being necessary for their production (Engelhardt, Neck and Sthamer).

We now come to the experimental work of Payrs, which was communicated to the last Surgical Congress. He noted, in exposing the omentum to tearing or to high temperature, that clots of blood formed in the small vessels, and that these clots were easily loosened and floated in the blood stream towards the liver. Following this occurred gastric changes. In the smallest ramifications of the omental blood vessels were seen changes in the corpuscular elements of the blood, with retrograde embolism in the submucous, and præcapillary gastric venous channels, blocking of these vessels, small hemorrhages into the tissue, hemorrhagic infarct formation, erosion and, finally, ulceration.

Among the ninety-six cases detailed by Busse, might be mentioned twenty-seven abdominal operations, twenty-five operations upon the intestinal canal (seventeen of which were appendectomies), ten operations upon the gall-ducts, and fourteen operations upon the female genitalia. In thirty-four cases, the omental or mesenteric blood vessels were ligated. In forty-three instances it was necessary to deal with purulent conditions. Fatal termination occurred in fifty-five cases. Busse contends that the gastric or duodenal hemorrhages are directly due to thrombotic changes, either in veins or arterioles. In the causation of this condition, one can mention the character of the operation, as well as the factors of local or general circulatory disturbance, poor attention to ligation of vessels during the operation, trauma during the operative procedure, narcosis and nervous influences. The hemorrhage occurs most frequently inside of the first week after operation. The anatomical changes met with are gastric or duodenal hemorrhage, erosion or ulceration. Many times there were no

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visible anatomical changes to account for the condition. Prognosis is grave, and treatment symptomatic.

The case which Mühsam reports falls in the group of five cases reported by Dieulafoy and Charlot—fatal hemorrhage from the stomach in cases of children from infancy up to the age of ten years. In Mühsam's case, the autopsy failed to disclose thrombotic changes in the omentum, although it was carefully examined by the obducent, Dr. Westenhoeffer. Microscopically, a round cell infiltration was made out in the connective tissue of the ulcer; beyond this, nothing. It is reasonable to suppose that the ulcus ventriculi was a fresh one, because gastric ulcer, *per se,* is rare in children. This ulcer showed a tendency to heal, but not in the direction in which lay the artery which was eroded. It is possible that a piece of apple, which was ingested by the child, had something to do with the erosion of the artery, by rubbing against it.

VALUABLE HINTS FOR THE LIFE INSURANCE EXAMINER.—Circular No. 8, issued by the Boston Mutual Life, arranged by their Medical Director, appears in the December, 1907, issue of *The Medical Examiner and General Practitioner.* It is well worth perusal by all who act as life insurance examiners:

WHEN EXAMINING THE HEART, REMEMBER:

1. To look for the location of the apex beat, and note any deviation from normal on diagrams.

2. To look for signs of interference with the return circulation, such as enlarged veins over the chest, etc.

3. To look for cyanosis, as indicated by the color of the skin and mucous membranes, finger nails, etc.

4. To detect the slightest sign of dyspnœa after exertion.

5. To note the amount of hypertrophy, if any, on the tricuspid areas, indicating location of diagrams.

6. To carefully listen at the mitral, pulmonary, aortic valves, as indicated on the diagrams.

7. To ascertain if a murmur is transmitted to the axilla or carotids.

8. To listen carefully in order to detect intermittency or irregularity in the heart's action, and differences in the length of systole and diastole.

9. To look for pulsations in the epigastrium and other localities.

10. To carefully examine for evidences of arterial sclerosis.

11. To take the pulse for one minute, and record quality, condition of the radial artery, etc., as well as the number of beats per minute.

12. To inquire as to bleeding piles and varicose veins.

13. To inquire as to any swelling of the feet and ankles.

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14. To bear in mind that plethoric people with thick necks, inclined to obesity, are prone to apoplexy.

REMEMBER, IN THE EXAMINATION OF LUNGS:

1. To examine the chest without clothing, when possible.

2. To look for bulging of the interspaces, flat chest, and chicken breast.

3. To note condition of skin, as to whether it is unduly moist, cold, clammy, etc.

4. To note the rapidity of the respiration.

5. To note if both sides of the chest rise and fall together.

6. To percuss for dullness from the apex to the base, anteriorly, posteriorly, and laterally.

7. To locate râles, and indicate same on diagram.

8. If pulse is above ninety, for no apparent reason, take the temperature.

9. To note if the voice is strong, steady and firm; to look at the mucous membranes, and observe if they are normal in color.

10. That in the early stages of pulmonary tuberculosis, cough may be absent.

11. That a phthisical applicant may have rosy cheeks.

12. To note if clothes fit well. (It often happens that loss of weight is denied, while the fit of the clothing tells a different story.)

13. To ask if he suddenly perspires during the day, and without laying apparent stress upon this incident, ask if he does so at night.

14. To stand in front of the applicant, placing fingers just above each clavicle, and ask him to inspire deeply. If the apices are diseased, applicant will probably show evidence of pain, or soreness, as the inflated lung comes against the fingers.

15. To stand directly in front of the applicant, and place each hand on either side, just below the floating ribs, ask him to inspire deeply, and while he is doing so press firmly. Tenderness will make you suspect pleuritic adhesions.

16. That a prolongation of the expiratory sound is uniform over the chest, and not dependent upon emphysema, should not be recorded.

17. That a few crackles bilateral, at the base, and not associated with dullness, are not necessarily important, but you should give your interpretation.

18. That as we grow older the respiratory sound becomes harsher, and less vesicular, and may be increased in intensity, or diminished. (If these conditions are uniform in an elderly person, and are not due to emphysema, they need not be noted.)

How to Measure the Chest—Place the tape at lower angle of the shoulder blades, and when it is brought around it will fall just below the

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nipple. The applicant is requested to stand erect, without muscular strain or rigidity, and told to draw in slowly and steadily a long breath until the chest is thoroughly inflated. Chest circumference at inspiration is thus obtained. The applicant is then asked to count from one onward until the demand for inspiration becomes urgent; chest measurement at expiration is then recorded. (Note if inflation is uniform over entire area.)

THE CLINICAL IMPORTANCE OF THE UNEVEN DISTRIBUTION OF HYDROCHLORIC ACID IN GASTRIC CONTENTS.*—Albert E. Taussig, M. D., and William H. Rush, M. D., of St. Louis, Mo., state that the fundamental assumption that underlies nearly all the work that has been done on the acidity of the gastric contents, is that the latter represent a fairly homogeneous mixture, so that if a portion is obtained by means of the stomach tube its acidity represents fairly well the acidity of the total stomach contents. This is an error. The gastric contents are not homogeneous, and the acidity of the portion obtained for analysis does not always represent the average acidity of the entire contents. If the stomach contents are obtained in two portions, first in the erect, and then in the prone posture, the acidity often varies widely, the difference being greatest with solid or semi-solid test-meals, and least with liquid ones. Moreover, it is impossible, by any means at our disposal, to obtain the entire contents, and the acidity of the unobtainable residue may differ from that of both portions examined.

1. When the stomach contents are expressed and aspirated, in the usual manner, as completely as possible, the patient sitting erect, only a comparatively small portion of the gastric contents can be obtained.

2. After any of the usual test meals, the acidity of the portion so obtained can not be assumed to represent the acidity of the stomach contents as a whole.

3. If, after this portion of the stomach contents has been removed, the patient is made to lie down, it is usually possible by means of aspiration, inflation, and the like, to obtain a further considerable quantity of stomach contents. This second portion often differs considerably in its acidity from the first portion.

4. Even after this second portion has been removed, the stomach still contains considerable unobtainable residue. The amount of this is apparently independent of the total quantity of gastric contents, and probably varies from one to three ounces. Of its degree of acidity we can know nothing; certainly we have no ground for the assumption that it is identical with the acidity of the contents obtained for examination.

5. The quantitative determination of the acidity of the gastric contents is thus seen to be subject to a grave source of error. This will be

*Author's abstract of Monograph read to Section on Internal Medicine, St. Louis Medical Society December 14, 1907. Weekly Bulletin, St. Louis Medical Society.

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diminished if the contents obtainable in the prone position are also examined. It will be further lessened if the acidity of the two portions does not differ very widely, since then we may assume that the acidity of the unobtainable residue will, itself, not be very different.

6. It follows that, in practice, trustworthy results can be obtained only if the following precautions are observed: The stomach contents must be obtained separately in the erect, and in the prone posture; the acidity of each portion must be determined, and diagnostic conclusions drawn only if the two acidities correspond fairly well, or if the total quantity of gastric contents obtained is so great that the unknown acidity of the unobtainable residue may be neglected.

7. Indeed, the entire concept of degree of acidity of the stomach contents seems not to correspond to anything real. Different portions of the stomach contents have different degrees of acidity. We may speak of the acidity of the contents at the fundus, or near the pylorus, or, at most, of the average acidity of the total contents. It is this last that clinicians have attempted to determine, with what scanty success, it has been the object of this paper to show.

REPORT OF AN INTERESTING CASE OF DOUBLE ECTOPIC GESTATION.—Charles H. Dixon, M. D., St. Louis (*Weekly Bulletin*, St. Louis Medical Society, January 30, 1908), gives this history of the patient from whom he removed this specimen:

Mrs. H., age twenty-one, first menstruated at fourteen; regular, lasting six days, painful first two days. No serious illness; no leucorrhœa. Married May 4, 1907. Menstruated May 19th, regular; June 16th, regular; July 18th, four days over time. August 8th, flow again appeared, accompanied with severe pain in the side; was very profuse, lasting fourteen days. No large clots were passed. September 20th, again menstruated, lasting eight days, but little pain. October 16th, flow started again; more pain than usual; no large clots passed, and has continued to the present time. November 2d, in the afternoon, had first attack of severe pain in the abdomen, radiating to pelvis. She became cold, and had quite a profuse sweating. On November 4th, in the evening, had second attack of pain, similar to the first in location and character; also was slightly nauseated. Five hours later had a third attack of pain, lasting over two hours, with previous symptoms, only more severe and accompanied with considerable shock. There has been frequent micturition since November 1st.

Examination: Uterus slightly enlarged, normal position, os soft. Small mass to the left of the uterus, tender to pressure, size of the thumb; mass in cul-de-sac soft, size of an egg. Considerable bleeding from the os. Abdominal muscles slightly rigid, no flatness, but slight tenderness in left inguinal region. Patient anemic, pulse weak, slight temperature. Operated November 7th; both tubes involved, showing ectopic gestation. Some bleeding in abdominal cavity; some hemorrhage from right tube.

I had two objects in view in presenting this specimen to you this evening: First, because it is a little out of the usual, although cases are on record where twin and even triple pregnancies have occurred in the same tube, and also ectopic and entopic conditions have existed at the same time. The other object was to bring up the question: When should we operate in *ruptured ectopic* gestation?

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Formad states that this condition exists in one per cent of all pregnancies. Schauta, in 1900, in his celiotomies on women, found it to exist in five per cent of the cases.

Werder, in Bovee's Gynecology, page 706, says: "No matter how much collapsed and blanched the patient may be, even when in a pulseless condition, an attempt should be made to save her life by at once, without delay, opening the abdomen." Montgomery, Reed and Webster recommend immediate operation. Hirst says as soon as diagnosis is made, operate, rupture or not. "The patient's only hope lies in immediate operation." Noble, who separates his cases, reports forty-two per cent of deaths on immediate operation, to eleven per cent on all cases.

Ihm, in his statistics of mortality in cases treated on expectant plan, gives Winkle's and Winter's rate as *nil,* Thorn one per cent. Hunter Robb, in twenty cases treated expectantly, had one death.

Penrose says: "It is unwise to wait for reaction." Ashton says: "Operate without unnecessary delay; we must not wait for reaction from shock or collapse to set in before operating, as the patient may perish in meantime from loss of blood."

Fowler says: "Operative interference is indicated in all cases except only in those instances in which the patient is moribund from intra-abdominal hemorrhage. The more rapidly progressive the collapse, the more urgently immediate operation is demanded."

Hartog, of Landaus' clinic, in a complete review of German statistics, says that not more than five per cent of the victims of ectopic pregnancy died from hemorrhage at the time of rupture. In speaking of death following hemorrhage, Ewald says that deaths from gastric hemorrhage are comparatively rare. Osler says that hematemesis rarely proves fatal.

Moynihan says: "For a time symptoms may give rise to serious alarm, but a rally is seldom long delayed."

Riegel: "Cases in which hemorrhage is so severe as to cause death are rare."

Pepper: "A single hemorrhage is rarely so profuse as to cause death."

Tyson: "Very rarely will a patient bleed to death." Fatal hemorrhage from lungs, either in early or late phthisis, is rare, according to Loomis, Thompson, Strumpel and Delafield.

Recovery may take place after the loss of a large quantity of blood. Gastric hemorrhages, where patients have lost from two pints to a few quarts, are on record; intestinal bleeding in typhoid up to six pints with recovery; and post-partum to three quarts with recovery.

Stillwagen (*Am. Jour. of Ob.,* January, 1908), says: "Treatment of terminated ectopic pregnancy is of serious importance, owing to the frequency of its occurrence, because of its high mortality, and on account of the almost universal teachings, which teachings I believe to be based upon a fallacy and to be exceedingly dangerous."

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Landinski (*Am. Jour. of Ob.,* January, 1908), in his report of one hundred and seven cases with one death, which occurred on third day, and was in a case of hemophilia, says: "It is my firm belief, and the results obtained by me in the cases of extreme collapse justify my contention, that no matter how profound the collapse of the patient, the urgent indication is to check the hemorrhage; and if the operation be performed with the ease and rapidity that is possible in expert hands, the additional shock will be so slight that it can not be held responsible for a single death. I can not agree with the theoretical reasoning, nor is my experience in accord with the practical deductions of the writers who advocate delaying operation in profound shock."

In making statistics, some objections may be made to any case that has not been proven to have existed by an operation or autopsy.

Simpson (*Surgery, Gynecology and Obstetrics,* November, 1907), says: "What to do when suddenly confronted by deep-seated hemorrhage sufficient to cause alarming symptoms, is a question which always commands serious consideration."

Many writers say delay till patient has rallied from shock is permissible. Davis says: "It is true, however, that some cases sometimes recover by the spontaneous and gradual cessation of bleeding. Immediate operation is the best and safest treatment, and the physician should be content with nothing less, when an operation can be performed."

Boldt has had quite a number with tubular abortion recover completely without an operation. The expectant treatment should not be merely an advice to keep the bed, but absolute rest should be insisted on; no vaginal examination, no palpation of pelvic region, or rectal interference, is allowed. The patient should be absolutely quiet, with the foot of bed elevated. Anything that would elevate blood pressure is not allowed.

Another question arises: Is the increased shock following the cases of operation due to the operation *per se,* or to the anesthetic? It is my belief that the cases would suffer less from shock if operated on with local or no anesthetic, and all unnecessary handling and delay done away with.

Simpson says: In conclusion, it seems to me that the indications for immediate operation are definite, and that the indications for deferred operation with careful preliminary operation are equally definite. The essential feature in either case is to save life. If the patient's condition is not desperate at the time of rupture, operation may be done with safety. It then possesses the advantages of a shorter convalescence and fewer and less firm adhesions. On the other hand, if the margin of reserve strength is reduced to a very low limit, operation or any other severe depression may readily wipe it out with a fatal termination. In such cases, the very desperate cases, it seems to me that we are to think of life alone

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and not of the question of convalescence. The objects of operation at any time may be:

(1.) To control bleeding which is in progress.

(2.) To prevent the recurrence of bleeding which has ceased, or,

(3.) To remove the debris incident to tubal abortion or rupture.

1. Regarding the first indication for immediate operation, it has been said, I think truly, that in the vast majority of instances hemorrhage has already ceased long before the abdomen is opened. This may readily be believed, especially as to operate in two hours from the time of rupture would be an unusual achievement.

2. The prevention of recurrent bleeding, where hemorrhage has already ceased, can with safety be effected by quieting the patient with morphine and insisting upon *absolute* rest. This means of preventing a return of bleeding is far more simple and safe than adding the depression incident to an abdominal operation.

3. An operation designed for the removal of pelvic pathology or abdominal debris should, if possible, be done at a period of election. That period is not at a time when the margin of reserve strength is at the lowest point, but after the victim of hemorrhage has regained sufficient energy to pass through the ordeal of operation with comparatively little risk.

It seems to me that in the case of immediate operation the following combination of conditions is an absolute requisite of uniform success:

1. Slight hemorrhage which does not reduce the margin or reserve strength to a very narrow limit.

2. A competent operator.

3. Skilled assistants and attendants.

4. Appropriate surroundings.

5. *And* adequate preparation.

On the other hand, it seems to me that any one of the following conditions will render deferred operation safer and hence preferable:

1. Profound depression due to serious hemorrhage, with or without other associated lesions.

2. *Or* an unskilled operator.

3. *Or* inadequate assistants, attendants or facilities.

4. *Or* hasty or inadequate preparation.

5. *Or* the need of transferring the patient to hospital, thereby seriously increasing the risk of continued or renewed bleeding.

THE PROPHYLACTIC VALUE OF VACCINATION.—Passed Asst. Surg. Henry S. Mathewson, Public Health and Marine-Hospital Service; United States Public Health Report, January 31, 1908.—Reports to the Surgeon-General, Public Health and Marine-Hospital Service.—Small-pox

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is supposed to have originated in Africa, in prehistoric times. The first historical reference to the disease is an account of an epidemic of small-pox which developed in the Abyssinian army besieging Mecca, in the year 571. From Mecca it spread over Asia and Europe. Procopius, in his history of the Eastern Empire, describes small-pox as present in epidemic form in Constantinople in 581, and Gregory of Tours records its presence in Southern France in the same year. Throughout the Middle Ages references to small-pox are few and misleading, as it was much confused with measles and syphilis. The very name small-pox shows its confusion with and final differentiation from syphilis, or the pox, as syphilis was commonly called at that time. By the year 1600 small-pox had assumed epidemic form throughout Europe, and in the following two hundred years it continued its ravages unchecked, save by the exhaustion of the susceptible following years of great epidemics. Various mysterious causes have been assigned for the rise of certain infectious diseases to epidemic form at varying intervals, but the simple explanation suffices, that in the interval a new generation is born, and grows up and furnishes new fuel for the flame.

In England the disease was always present, and but 1 person in 25 escaped an attack of small-pox. From 1761 to 1800, there died in the city of London an average of 2,037 persons yearly from small-pox.[1] Its omnipresence is shown by the common proverbial saying, "That few escape love and small-pox." It confined its assaults to no class, and royalty suffered equally with the peasant and the pauper, thus clearly indicating that differences in sanitary surroundings did not influence the incidence of the disease. It is estimated that in the 100 years from 1700 to 1800, an average of 600,000 persons died yearly from small-pox throughout the world.[2] Among preventive measures, prior to the discovery of vaccination, inoculation with the disease deserves a brief mention. Among the Turks it had long been practiced, and it was introduced into England in 1721 by Lady Mary Wortley Montagu, who returned in that year from a period of residence in Constantinople. The advantages of inoculation were that one could by this means have the disease when young, when in good health, at a favorable time of the year, and often in a mild form. Many among the educated availed themselves of this practice, but it never became popular among the masses, as death not infrequently followed inoculation.

In the same year, 1721, Dr. Zabdiel Boylston, of Boston, introduced inoculation in America. During this year an epidemic of small-pox was present in Boston. Of Boylston's 286 inoculated cases, 6 died, a percentage of 2.09. During the same period, of 5,759 cases acquired by contagion, 844 died, a percentage of 14.6. During the colonial period small-pox was very prevalent, and scarcely a personal description is found in the

[1] Second Report Royal Vaccination Commission, 1890. p. 290.
[2] Welch and Schamberg, p. 18.

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prints, or literature, of the times, that does not contain the terms "pock-marked" or "pock-fretten." To have had small-pox was a valuable recommendation in seeking employment, and this fact contributed to the establishment of inoculation hospitals in various parts of the country. Two were in operation near Boston, in the year 1764, one of which contained 480 beds; others were established in the vicinity of New York and Philadelphia. There was much opposition to inoculation, and the practice ceased upon the discovery of vaccination.

Discovery of Vaccination—Prior to this discovery it had long been known that an attack of cow-pox conferred immunity to small-pox. This fact had been observed by those engaged in dairying, and the care of cattle in various parts of the world. In the dairy counties of England, among the Indian shepherds of Mexico, of Baluchistan, of India, and among the dairy population of Turkey, small-pox had lost its terrors, but it remained for the acute mind of Edward Jenner to generalize from these isolated examples of immunity. He was living in Sodbury, England, when the chance remark of a dairy maid, referring to small-pox then prevalent, "Oh! I can not take that disease, for I have had cow-pox," called his attention to the subject. On May 14, 1796, he vaccinated his first case, James Phipps, aged 8 years, using serum taken from a cow-pox vesicle on the hand of a dairy maid; on July 1 he proved the immunity of the boy to small-pox by his failure in repeated attempts to give him small-pox, either by inoculation or exposure to the disease. The experiment was repeated many times in other subjects, and, finally, in 1798, Jenner published an account of his work, entitled, "An Inquiry Into the Causes and Effects of Variolæ Vaccinæ (cow-pox)." The discovery met with a storm of opposition and abuse.

The Parliament of England testified to the importance of Jenner's discovery by voting him £10,000 in 1802, and £20,000 in 1807. News of the discovery of vaccination spread rapidly to America, but the difficulty of conveying the vaccine virus without loss of potency, delayed the first successful vaccination in the United States until July 8, 1800, when Dr. Benjamin Waterhouse, professor of medicine in Harvard College, successfully vaccinated his son Daniel, a boy of 5 years of age. Many successful vaccinations followed in Boston, and from these cases virus was conveyed to New York and Philadelphia. President Jefferson showed great interest in the discovery, and lent the aid of his support to the new cause, the first vaccination in Washington being made on a member of his own family, August 6, 1801. In 1802 he wrote to Dr. Waterhouse expressing recognition of the value of his work, and in 1806 he addressed the following letter to Dr. Jenner:

MONTICELLO, VA., May 14, 1806.

SIR: I have received a copy of the evidence at large respecting the discovery of the vaccine inoculation, which you have been pleased to send me and for which I return you many thanks. Having been among the early converts of this part of the

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globe to its efficacy, I took an early part in recommending it to my countrymen. I avail myself of this occasion to render you my portion of the tribute and gratitude due you from the whole human family. Medicine has never before produced any single improvement of such utility. * * * You have erased from the calendar of human afflictions one of its greatest. Yours is the comfortable reflection that mankind can never forget that you have lived; future nations will know by history only that the loathsome small-pox has existed and by you has been extirpated. Accept the most fervent wishes for your health and happiness, and assurance of the greatest respect and consideration.

THOMAS JEFFERSON.

Time has confirmed the soundness of the President's judgment as to the value of vaccination, but his prophecy as to the disappearance of small-pox still awaits fulfillment.

Vaccine Virus—For many years after the discovery of vaccination the arm-to-arm method was employed. This consisted, where possible, of the direct transferrence of the virus from the vesicle on the arm of one person to a small wound on the arm of another; or threads were wet in the fluid contained in the vesicle and dried and sent to a distance, where the threads were moistened and the material on them was used to vaccinate. This method of human arm-to-arm vaccination had its disadvantages and dangers. Syphilis was thus conveyed from person to person, and care was not taken as to the contamination of the virus with pus-producing organisms.

A safer method of securing virus was soon sought, and Galbiati, an Italian physician, in 1811, first suggested that cow-pox be artificially produced in calves, and the virus obtained from these vesicles used for vaccination. This method was gradually adopted. Beginning with a spontaneous case of cow-pox, calves are inoculated, and thus a "strain" of virus is developed.

The process of vaccinating the calf is as follows:

The posterior half of its belly is shaved, cleansed, scarified in parallel lines, and inoculated with vaccine virus. The vesicles form in long, parallel lines; when mature, their content is removed under antiseptic precautions, mixed with glycerine, and allowed to ripen for from 4 to 6 weeks. It is frequently tested for potency and freedom from contamination, and if it meets the Government requirements is prepared for market, either dried upon "ivory points," or put up in small glass tubes.

France and the United States are at present using a "strain" developed from a case of cow-pox occurring in Beaugency, France, in 1871.

There is also in use with us a "strain" derived from a case of cow-pox occurring in Cohasset, Mass., in 1881. The English official vaccine at present is derived from a case of cow-pox occurring in England in 1881. These "strains" are maintained by transferrence from calf to calf. Cow-pox is believed to be small-pox in a modified form, and it is becoming a very rare disease. Should the present "strains" of virus die out, it is possible to develop cow-pox in the cow by inoculations with small-pox

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material from a human subject; otherwise the practical disappearance of cow-pox would be a serious matter, should the present "strains" of vaccine die out.

At present the production of vaccine virus in the United States is under Government control. The laboratories where it is produced are frequently inspected, and their products are tested for strength and freedom from infection by the Hygienic Laboratory of the Public Health and Marine Hospital Service, at Washington. Since this law went into effect a marked improvement in the character of the vaccine virus on the market has been observed. In cases vaccinated more good takes are obtained, and fewer infected arms are seen.

In accordance with an additional regulation issued by the Secretary of the Treasury, March 13, 1906, each and every lot of vaccine virus must be examined bacteriologically by the manufacturer to determine its freedom from pathogenic micro-organisms, and a special examination is required of each and every lot to determine the absence of tetanus. Permanent records of these examinations are also required.

How and When to Vaccinate—Infants of any age may be vaccinated if small-pox is prevalent. If there is no danger of exposure to the disease, vaccination should be delayed until the child is from 4 to 6 months of age —in sickly babies it may be delayed until the child is 1 year old.

The best place to vaccinate a baby is on the outer side of the left leg, about 3 or 4 inches below the knee. All right-handed mothers and nurses carry the child upon their left arms. This brings the vaccination sore away from the body of the nurse and in little danger of being hit or rubbed. The leg is to be chosen rather than the arm when vaccinating children, as the abundant lymphatics of the groin better control the inflammatory reaction following vaccination than the relatively fewer lymph nodes in the axilla. In female children the leg should also be chosen, as scars upon the arm are often unsightly. In right-handed male adults the left arm is the site usually chosen for vaccination, at a spot on the outer side of the arm, 5 or 6 inches below the top of the shoulder.

The place chosen for vaccination should be well scrubbed with sterile soap and water, a soft sterilized brush being used. After scrubbing, wash off with alcohol and allow skin to dry. A fine cambric needle mounted in a short wooden handle or a small cork is the best scarifier. The point of the needle is sterilized by passing it through the flame of an alcohol lamp. The spot upon the arm or leg selected should be cross scratched over a surface about half the size of a dime. No blood should be drawn. It is sufficient if a small amount of serum appears. Upon this surface is spread the contents of one tube of glycerinated vaccine virus, which should be allowed to dry in before any dressing is applied. Then apply a shield or a simple dressing of sterile gauze held in place by 2 narrow strips of zinc oxide adhesive plaster.

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After-Cure—This first dressing, if not soiled, need not be removed until the "take" occurs, on the third or fourth day. The skin around the "take" is generally reddened and inflamed and burns and itches. This should be smeared over with an ointment of zinc oxide and a sterile dressing reapplied. If signs of infection of the "take" appear, a wet dressing of warm 1-2,000 bichloride of mercury solution, frequently changed, should be applied. Great care must be taken to avoid infection of the vaccination wound, and protective dressings should be used until healing takes place.

What Is a Good Take?—It is hard to verbally describe a good take. The physician doing the vaccination should see and pronounce upon each case.

What Is a Good Scar?—"A perfect scar is round or oval, below the level of the skin about it, with well-defined margins, pitted or reticulated, and looks as though it had been stamped into the skin. Large flat scars are not signs of a good take, but of infection of the vaccination wound; large pits about the edges of a scar are a good sign of a take; the smaller pits scattered over the surface of a large flat scar are generally the dilated mouths of hair follicles and sebaceous glands."[1]

Revaccination—A vaccinated person is protected from small-pox in all cases for a period of six or seven years, in many cases for a far longer time. Children should be revaccinated at the age of 10 or 12 years. The compulsory vaccination law of the German Empire requires vaccination of every child before the end of the year following the year of its birth and revaccination during the twelfth year. After a second successful take revaccination is not necessary, unless in time of epidemic of small-pox or in those directly exposed to the disease, when revaccination from time to time is a wise precaution against infection.

OPPOSITION TO VACCINATION.

Opposition to vaccination rests on 5 fundamental declarations:

1. It is dangerous. 2. It is useless. 3. It is an invasion of the right of the individual. 4. Doctors favor it for the fee for vaccinating. 5. All statistics about small-pox are false.

1. *The Dangers of Vaccination*—The dangers of vaccination exist at present chiefly in the minds of the opponents to vaccination. The chief source of danger remaining is an accidental infection of the wound caused by the vaccination. In this a vaccination wound but shares in the danger to any wound of infection. This in vaccination wounds amounts to 1 case of infection with fatal results in 65,000 vaccinations. Voight[2] reports 2,275,000 vaccinations in Germany, with a total of 35 deaths. Re-

[1] Adapted from Welch and Schamberg.
[2] Voight. History of small-pox and vaccination (1901).

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cently he reports a series of 100,000 vaccinations with but 1 death. Hodgetts reports 40,000 vaccinations done in the Province of Ontario, Canada, without a death. Therefore, while we do not deny that there remains some danger to life in vaccination, we claim that with the exercise of due care it may be reduced to a point where vaccination is far less dangerous than the extraction of a tooth or the taking of an anesthetic.

2. *It Is Useless*—This statement is based largely on the fact that vaccinated persons do have small-pox. That we do not deny. The protection of vaccination becomes exhausted, and the disease is contracted, or a person is exposed to small-pox, is vaccinated, and has the disease in spite of the vaccination. In Prussia, between the years 1847 and 1873, vaccination was voluntary, and only a small part of the population was vaccinated, and during these years there died of small-pox an average of 42.1 persons per year per each 100,000 of the population. In 1873 a compulsory vaccination law was passed and enforced, and from 1874 to 1901 there died of small-pox a yearly average of 1.3 persons per each 100,000 population. Roughly estimated, deaths from small-pox were 40 times more frequent before than after vaccination became compulsory. The claim that improved sanitation has reduced the death rate from small-pox can not be proved. Austria is practically as far advanced in sanitation as Prussia, but has no compulsory vaccination law, and small-pox is widely prevalent and as fatal as ever. There has never occurred a case of small-pox in a person recently vaccinated successfully. The attendants at small-pox hospitals are vaccinated and revaccinated from time to time, and small-pox is unknown among those so protected.

At the Highgate Hospital, near London, where hundreds of small-pox cases are treated, but one attendant in the past sixty years has taken small-pox, and that attendant was a gardener who was not vaccinated because he did not come in contact with the patients. In Boston during the 1900-1903 epidemic of small-pox no attendant at the various small-pox hospitals took the disease. Facts as to reduction of the death rate and immunity to the disease might be multiplied indefinitely, but enough has been said to prove that vaccination does protect. Even in those contracting small-pox years after having been vaccinated a certain factor remains which modifies the virulence of the disease and makes the death rate far lower than in the unvaccinated. The mortality among the vaccinated is as 1 to 7 among the unvaccinated, as shown by the following table from Reports of British Royal Vaccination Commission;

	Cases.	Deaths.	Per cent.
Vaccinated	8,744	461	5.0
Unvaccinated	2,321	822	35.1

3. *It Is an Invasion of the Right of the Individual*—There is no answer to this argument if its premise be granted that the individual has a right to do as he pleases. This may be granted if the individual lives

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alone and comes in contact with no other human being. Life in communities invades and restricts the right of the savage, and community life is impossible on any other terms. The police power of a community rests on either the public-nuisance or the public-welfare ideas in common law and constitutional law; *i. e.*, an individual may not maintain a public nuisance and groups of individuals may act together for the public welfare. Therefore we find today the savage rights of the individual lessened in number and invaded on every hand. Compulsory vaccination laws, where they exist, have been upheld unanimously by all courts of appeal before which they have been tested, and the right of the community to enforce vaccination for the public welfare has been established. The individual who, in exercising his right to do as he pleases, contracts small-pox, is conveyed to a pesthouse as a public nuisance, and his family are quarantined and vaccinated for the public good.

4. *Doctors Favor It for the Fee They Get for Vaccination*—This trifling argument may be answered by the statement that vaccination is performed free of charge by Government officials, and the cost thereof is borne by the city or State wherever vaccination is compulsory.

5. *All Small-pox Statistics are False*—Whether or not records are kept, small-pox does exist and kills or scars its victims, and the fact of its existence and its danger remains, even if the disease is disguised under the name of measles, chicken-pox, Philippine itch, or any other designation.

CONCLUSION.

During the past five years small-pox in the United States has shown a steady and gratifying decrease. In 1902 there were reported 54,014 cases with 2,083 deaths; during 1906 there were reported 12,503 cases with 90 deaths. This decrease has doubtless been brought about by increased vigilance on the part of State and national authorities and the wide dissemination of information in regard to the prevention of the disease. Many cities and States have enacted ordinances requiring the vaccination of all children before they are allowed to attend the public schools. In Germany, where vaccination is compulsory and universal, during the year 1906 there were, according to reports received by the Public Health and Marine Hospital Service, in the whole Empire but 26 cases of small-pox with 5 deaths, and these cases were largely imported from neighboring countries, where small-pox is prevalent and unchecked by general vaccination. The experience of Germany, where compulsory vaccination has been in force for thirty years, proves conclusively that small-pox as existing in the United States is entirely unnecessary, and vaccination and revaccination can not be too strongly urged as the only means of removing this pest from our midst.

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EDITORIAL

THE ETHICS OF JOURNALISM AS SEEN BY THE EDITOR OF AN ASSOCIATION ORGAN.

The first issue of the *Journal of the Indiana State Medical Association* made its appearance January 15th. It is a monthly publication, and contains forty-eight pages of reading matter with eighteen pages of advertising. In the matter of editorial and mechanical make-up, it is uniform with the other State Association journals, and hence, from the very nature of the case, it does not and can not possess any particular character or individuality of its own. Its editorials, indeed, might have already done service in some one of the other organs of its class, and no one except the editors of the respective journals would have been the wiser for their second publication—so much alike in thought, tone and temper are the opinions expressed therein to those which have been so frequently set forth by the editors of the other association organs. For instance, this editor perches himself on a high ethical eminence, and from his superior position looks down in contempt and hatred upon the "privately-owned medical journals," which, he tells us, "have prostituted their pages to the interests of dishonest advertisers for the profit to be obtained, while the rank and file of the profession, with nothing to guide them, have been the victims of the grossest deception." He then goes on to say that with the establishment of the association organs, physicians need no longer suffer from the cupidity of the independent journals, since the society organs will look out for their interests, tell them what literature they may read, and what medicines they may prescribe, direct them in the proper paths, and shield them from all harm which may come from their own guilelessness or stupidity.

After delivering himself of all these high-flown moral sentiments; after promising all this paternalistic care and protection to the physicians of his State who, he evidently thinks, have not sense enough to look out for themselves; after charging that the independent journals have prostituted their pages to the interests of the dishonest advertisers, this mentor of the medical profession, this self-assumed guide and guardian of the doctors of Indiana, wraps about him his robes of authority and thus gives orders to the members of his association:

"IF YOU ARE ABOUT TO PURCHASE OR PRESCRIBE any pharmaceutical specialty, instrument, appliance or office equipment, see if it is advertised in the *Journal*. If it is *not* advertised in the *Journal*, find out *why* it is not. Let those you are dealing with know that we have a medical journal which is owned, published and controlled by the medical profession of Indiana, and that the *Journal* will give value received for every

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dollar spent in advertising, for the advertiser will be appealing to the owners of the *Journal* who are going to patronize those who patronize them."

Now, translated into plain Anglo-Saxon, this is what this editor means, and, in effect, says:

"If you have seen in one of the independent journals, or elsewhere, the advertisement of some medical or surgical appliance; if through this advertisement you have been convinced that the article advertised is a good thing, and you have determined to try it—if, indeed, you are so sure of its merits that 'YOU ARE ABOUT TO PURCHASE IT,' wait awhile; hunt up your State journal and see if it is advertised therein. If not, find out *why* it is not. Let those you are about to deal with know that we have a medical journal, and tell them to advertise in it, and if, for reasons best known to themselves, they fail to do so, tell them plainly you won't buy their instruments or prescribe their remedies, even though they be the best of their kind, and regardless of your conviction that they will help your patients. Your aim and purpose in life is not to successfully treat disease, but to boost our journal, to do which successfully, you must boycott every manufacturer who refuses to pay tribute to it, it matters not whether he considers it a good advertising medium or not."

Now, the editor who issued these instructions may not have realized it, but it remains that any contracts that he may obtain for his journal in that way is not advertising, but blackmail, pure and simple. Advertising is a commodity. It is valuable in proportion to the amount of publicity it gives to the goods advertised. No man is under obligation to take space in any particular journal. If he can be convinced that it reaches a large proportion of a class he wishes to influence, and the price is right, he will be apt to buy it. But if he can not be shown that it will do this thing, or if for any reason or no reason, he does not want to buy it, no one has a right to complain. In the cases in which this editor advises the writing of threatening letters, the doctor already knows about the goods. He has seen them advertised in the independent journals. More than that, he is convinced of their merits; in fact, to quote the editor's words: He is "ABOUT TO PURCHASE THEM." There could, therefore, be no earthly use for the manufacturer to advertise his goods in the society organ to reach that particular doctor, and to attempt to force him to do so by the methods outlined, is, to our minds, as clearly and manifestly blackmail as was the tribute which, in the old days of border warfare in Scotland and England, the highland robbers demanded from the defenseless inhabitants of the lower country as the price of immunity from spoiliation and ravage. And yet this smug pretender to ethics, this preacher of morality, this man who impugns the motives of all the editors of the independent journals—aye, who boldly charges that they have, for a little profit, so prostituted them-

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selves as to join in the schemes of dishonest advertisers to bunco their readers—this all-righteous and self-sacrificing man who has, he tells us, already "refused $2,000 worth of advertising" because it was dishonest, puts down in cold print directions to his followers how to *compel* people to advertise in his paper, *not as a means of publicity, but as the price of immunity from boycott!*

We wonder if there are any great number of the members of the associations who sanction such journalistic methods. We have too high an opinion of human nature, in general, to believe that there are. The whole thing is but the outcropping of the spirit of coercion which all labor-union leaders exhibit on occasion, and which generally ends in the selling out of the organizations for their own gain, after the manner of Sam Parks in New York and John Shea in Chicago. We do not believe any great proportion of the physicians of this country, in or out of the medical societies, will long stand for such principles or practices.

We would like, in this discussion, to avoid everything that might, even by a strained construction, be considered as a personal attack. Such an intention is foreign to our mind. We have no quarrel with the editor of the Indiana *Journal*. He is no better nor worse than his kind. Indeed, as we have already intimated, his and all the other State Association organs are cast in the same mould. They are fashioned after the same pattern. They appear not to have anything about them that suggests original ideas or independence of thought or opinion. They know not why they say so and so, but, "like to village curs, bark when their fellows do." They all come out of their holes on the mechanical principle of the little birds in the German clocks, and cry "cuckoo!" together in such a loud and resonant chorus that it is evident, not only that they *are* all cuckoos, but that their beautifully harmonious movement is regulated by a machine behind them. Everything that any one of them says has already been said many times before. The imputation of dishonesty to the independent journals, because, forsooth, they insist on following their own judgments, and refuse to accept the dictations of a clique of self-constituted censors at Chicago as to the quality of reading matter they publish and the kind of advertisements they accept, is by no means new. It was first made by the national organ at Chicago, and has been feebly echoed by all its servile dependents in their turn. And the charge is as inconsistent and hypocritical as it is false and infamous. For instance, the editor of the Indiana *Journal* has himself, in the past, and no longer ago than the month of December, published and accepted pay for advertising the identical products which now, with uplifted eyes and in mock morality, he characterizes as fakes and frauds. We learn from his own words that, up to January 1, 1908, he was the managing editor of the *Fort Wayne Medical Journal-Magazine*. We have before us a copy of the November issue of that publication, in which

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we find the advertisements of quite a number of proprietaries, but very strange to say, *not one which appears therein has been passed by the Council on Chemistry and Pharmacy and been admitted into the Holy of Holies of the American Medical Association.* All of them, in fact, are without the pale, and consequently will not be permitted to pollute the pages of his new journal, or to spread their foul contagion among his subscribers. They were all right, they were ethical and good, when he published a "privately-owned" journal, but when his connection with that publication ceased at midnight on December 31, 1907, their nature changed completely, and they became at once "Anathema Maranatha!" Now, how ungracious (shall we say hypocritical?) it is for this man, who has for years and years accepted pay for these products, to turn suddenly around and denounce their manufacture as frauds and his brother editors who continue to advertise them, just as he has been doing, as their guilty accomplices.

It seems to us that, in all decency, before he starts out on such a course, he ought to disgorge all the filthy money he has received these many years from these supposedly dishonest proprietors.

If they are frauds, as he now asserts, or rather if he knows them to be frauds, which is quite a different thing, then he is *particeps criminis* with them to the full extent of the aid he has given them to swindle his former subscribers through advertising their products, and it ill becomes him, as long as he keeps his clutches on the money so obtained, to abuse those from whom he received it, or to bring charges of personal dishonesty against other editors who are only doing what he has been doing ever since he has been connected with a medical journal.

And what we have here written applies to all others who have made this infamous accusation, or who have attempted, by bulldozing tactics, such as we have described, to get manufacturers to advertise in their publications.

A PROPOSITION TO COMPEL PHYSICIANS TO SUBMIT TO STATE BOARD EXAMINATIONS EVERY FIVE YEARS.

In a carefully prepared paper on "The Doctor, His Duty and Relation to the State," written by Dr. David C. Peyton, President of the Indiana State Medical Association, and published in the first issue of the *Journal* of that Association, the author maintains that a law should be enacted requiring all doctors to stand State Board examinations once in every five years. He argues that this would serve as an incentive to doctors to continue a well-directed course of medicine and to better establish their rights and claims to the position of teacher. He claims, moreover, that such a law would uplift the standard of the profession, and would eliminate

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those who are unwilling or incapable of keeping pace with the progress of the profession.

The advocacy of such a proposition by any one would be truly remarkable, but it is particularly so for the head of a State medical organization, who is presumed at all times to realize the weight which attaches to his words. The idea is devoid of logic or justice, and its enforcement would mean the placing of the State in a paradoxical position, *i. e.*, first granting a license to a doctor to practice his profession, and then deliberately depriving him of it, for no other reason than that of failing to pass the same examination which he has already passed.

The design of the first examination which a candidate for a physician's license is compelled to take, is to ascertain if he knows enough of medicine to enable him to properly practice. Granted that he passes, certainly thereafter each year of practice makes him a better practitioner, but it renders him less capable of writing a glowing text-book description of disease, such as is ordinarily expected of the candidate before the average State Board of Health. Each five years added to his previous experience will make the practitioner more valuable to his community, and will ripen his judgment and broaden his mind in inverse proportion to the improvement in his ability to write a successful medical examination paper, particularly upon the elementary subjects.

Better by far would it be for those who sit in the high places of medicine, if they earnestly desire to promote a high standard of excellence, to advocate a more careful inspection of the quality of the raw material that enters the medical "diploma-mills," instead of attempting to enact laws, the enforcement of which would bring hardship and injustice to the practitioners already at work.

Another reform that might be mentioned while we are on the subject of the duty of the physician to the State, is the elimination of the medical men who owe their teaching positions in medical colleges to "pull," and who use their professorships chiefly as a means of getting surgical cases or other cases from the graduates when they settle in their respective neighboring counties. The love of teaching is not implanted in the breasts of all clinical professors in American medical schools; many of them, unfortunately, teach merely to advertise their special line of work. If they thought for a moment that they would not get cases from their students, they would abandon their college without a moment's hesitation or regret.

Let there be reform in these matters rather than in the direction pointed out by Dr. Peyton—the granting of despotic powers to boards of health, whereby, through incompetence or personal malevolence on the part of individual members, competent practitioners might be dragged before these tribunals, deprived of their licenses after a mock examination, and honorable men thereby deprived of the opportunity to follow out their

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vocations. American medical men will not stand for the sweeping power which would be thus given to the political body commonly called a State Board of Health. Possessed of such power, a physician would hold his right to practice and to earn his livelihood, on the sufferance of the Board. He would be afraid at all times to express an independent thought or to take an independent position, lest it should be treasured up against him and remembered when he went to stand his next examination. There would be an end to genuine progress, and the only real gainers would be the men who comprised the boards and the organizations to which they belonged.

VOCATION OR AVOCATION?

Under this caption appears a powerful article by George M. Gould, in the January issue of *The American Journal of Clinical Medicine*. George M. Gould needs no introduction, at our hands, as a prominent and erudite American medical editor and thinker. Coming from him, the statements made, iconoclastic as they may seem at first sight, deserve full attention and deep thought. He strikes a body blow at the trend of the profession towards specialism, as it is practiced today in the United States. He contends most forcefully that many of the so-called leaders in medicine today, on this side of the Atlantic, are mere *poseurs* and faddists, men worshiping at the shrine of Mammon, sacrificing the traditional professional honor to the whims of the rich sick, and the sick rich; arrant charlatans, in fact, strutting before the modest practitioners at large, demanding big fees for cures that are never effected, and receiving five-thousand-dollar fees for operations that are unnecessary. He exposes the degradation of the whole tendency of the American "leading lights" in medicine in no uncertain terms.

Under a sub-heading of his article, entitled, "The Degradation of Specialism," Gould points out what we called attention to in our editorial pages of the February issue on "Too Much Specialism." He shows, in a striking manner, the lack of proficiency, and even the lack of sincerity, in some of the "leading" specialists. He expresses the opinion that this specializing, unless there is a halt, will be the death-blow to the very existence of the practitioner, to whom all specialists look for their "material," and at whom many of them throw mud, after the "material" is safely in their hands. Gould maintains that the practitioner should be wary in calling in a famous man for consultation, for the famous man is likely to rob the patient, to give him no honest information, to furnish poor service, and eliminate the family physician. While this is an extreme statement, it nevertheless holds good, in some cases, as every physician must admit.

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Without beating about the bush, we are confronted with the following situation in medicine today: Is it safe to ask the advice of a surgeon on a supposed surgical disease? Can the average surgeon of the present time sink his desire for fame (and incidentally suppress his itching for a big fee) beneath that honest conservatism that is the shining principle of the honorable practitioner? Is there not danger that he will let his "surgical" instinct (?) overcome his medical conscience, if he is fortunate enough to have one? The answer must be, even as Gould maintains, that unless we know our surgeon well enough to feel that he is honest, because of this mania on the part of some surgical specialists to operate in all cases, either for greed or for effect, we should never appeal to them until therapeutics is impossible, or is exhausted.

Gould further strikes a blow of criticism at the present policy of the ruling spirits of the medical organization of America, which is, by domineering methods and political means, trying to vanquish all opponents, and to exterminate all independent medical journals. There is, unquestionably, something smacking of "trades unionism" in the methods that are being used to correct (?) the proprietary drug question. Medical politicians are the worst politicians in the world, and when a medical organization is controlled absolutely by a small band of political doctors, the inevitable must and will happen: class legislation, aggrandizement of the few, and injustice to the many. Unquestionably, the main purpose of some medical men in attending medical conventions, is personal advertising. Show us the men who compose the inner circle in the average medical society of the big cities, and we will show you, in many instances, a bunch of alleged specialists, each vying with the other to "show off" and attract the attention of the patient practitioner, in the hope that some "material" will be sent to him for "bleeding." The activity of these specialists in medical organization is remarkable. Their activity is due to their desire for personal gain, not to better the condition of their medical brethren.

THE PROPHYLAXIS OF VENEREAL DISEASES.

The prophylaxis of venereal diseases must rest essentially upon the broad proposition of improvement in the morals of the community. This improvement in morality can not be accomplished, as the "lid" reformers would have us believe, by closing houses of prostitution, and denying prostitutes the freedom of the city. Our Puritanical brethren would have us believe that this is the way to accomplish that end, while their own children are growing up in shameful ignorance of the anatomy of their own bodies, and absolutely devoid of information regarding the nature and manner of the spread of such diseases. There is but one logical means of promoting morality, and that is by plain talking. Let parents speak to their sons,

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explaining to them at the age of puberty something of the exact nature of their sexual organs. Let them be open and aboveboard, not hiding all this essential knowledge of youth behind the cloak of mock modesty. Plain, interesting talks might be given by conservative medical men to high-school students. Tracts should be distributed, exposing the entire subject of venereal disease, couched in understandable English. The impression that prevails among most laymen is that sexual intercourse is absolutely essential among men, if good health is to be preserved. This false notion should be knocked in the head by all medical men. The laity should be instructed that continence is not incompatible with good health, and that sexual intercourse is only, apparently, necessary to men after a habit is formed. Such methods will be crowned with some measure of success, but attempts to stamp out venereal disease by putting the "lid" on cities, or even by medical inspection of houses of prostitution, may be compared to attempts to extinguish a conflagration in a burning building by merely closing all the windows. Medical inspection of prostitutes is all very well in its way, but how effectively can it be done, and how can you inspect the women who ply their trade covertly, and not as open prostitutes?

APPRECIATION OF THE MEDICAL BRIEF IN FOREIGN LANDS.

From Σαλπιγξ October 27, 1907, under the heading: *"Achilles Rose's Fight for Science,"* we find the following:

"The indefatigable admirer of Greek learning, our dear friend Dr. A. Rose, of New York, continues his successful fight for international reform of medical onomatology in his endeavor to get rid of the bastard and unscientific terms which are at present in use. Only recently he published in the MEDICAL BRIEF (September and October, 1907) a master memorial on medical language, which was presented to the assembled rectors of all the German universities at their Marburg Conference on July 31, 1907, for whom it was especially prepared. We are publishing a Greek translation of this document in our pages, so that our readers may once more appreciate the ardent love of the Hellenic spirit of this learned author, which has secured for him not only a recognized position among the philhellenic fraternity, but among the Hellenes themselves.

"In *Geneeskundige Courant,* a Dutch medical journal published in Utrecht, Holland, appeared two long articles written by the celebrated Professor of Philology, H. C. Muller, on the memorial of Dr. Rose, and his fragment of a Greek medical lexicon published in the MEDICAL BRIEF (the letter in the issues for June, July, October, 1906).

"Dr. F. C. R. Eschle, a celebrated psychiatrician of Heidelberg, has published an exhaustive paper (eight pages) in *Medizinische Klinik,* Berlin, 1907, No. 48, and Dr. Julius Bartsch, of Lüneburg, in *Deutsche Mediznische Presse,* an important correspondence on Dr. Rose's memorial."

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CLINICAL NOTES.

USED IN MISCARRIAGE—JUST WHAT WAS WANTED.

I find H-M-C hypnotic anesthetic just what I have wanted for some time, and will keep a supply always on hand. In miscarriage, where the placenta must be removed under anesthesia, they are the very thing, and relieve the operator of the worry of chloroform or ether. I believe them superior to the morphine and atropine hypodermic, as more lasting and certain in effect. DR. A. D. BARNETT.

Guilford, Mo.

A CONVENIENT AND RATIONAL TREATMENT FOR ALL NARCOTIC DRUG ADDICTIONS.

The Combs Chemical Company, of St. Louis, Mo., has done the medical profession a great service in offering a treatment for narcotic drug addictions in tablet form, the tablets being put up in hermetically sealed tubes, numbered consecutively and complete formula printed on each tube; also directions concerning the use of the tablets. They are called the Hyos-Sco-Phine Tablets.

Free samples, literature and all other matter pertaining to the successful treatment of drug addictions can be obtained by addressing the Combs Chemical Company, St. Louis, Mo.

THE NATURE AND TREATMENT OF DROPSY.

Dr. Thomas Hunt Stucky describes the pathology of dropsy in the November issue of *The Medical Progress*. He gives a complete review of the various causes of edema of the tissues, mechanical stasis, venous stasis from heart disease, renal dropsy and anasarca of hepatic origin. Whatever the cause, except mechanical, a trial of Anasarcin has proven efficacious in his hands. Its virtues are derived from its component mild tonics, alteratives and diuretics. Stucky narrates the histories of several cases of valvular heart lesions with dropsy which were quickly improved by Anasarcin.

NERVOUS NEURALGIA.

Dr. Daniel E. Anstie, a well-known London physician, describes neuralgia as follows: "It may be defined as a disease of the nervous system, manifesting itself by pains, which, in the great majority of cases, are unilateral, and which appear to accurately follow the course of particular nerves, and ramify, sometimes into a few, sometimes into all, the terminal branches of the nerves."

To eradicate this disease some agent surely must be used to attack the central nerve ganglion itself. Such a remedy is Daniel's Concentrated Tincture Passiflora Incarnata. While it acts directly upon the nerves, it is unlike the opiates, in that it leaves the mind and bodily organs in better condition when its effects subside. It is a natural hypnotic and narcotic, allowing normal sleep and quick recovery.

A WORD FOR PASSIFLORA.

Regarding this well-known remedy, Dr. J. B. Morrow, Tulsa, Okla., says:

"I have lost considerable time, and caused many of my patients to suffer more and longer than they should have done, by virtue of my ignorance of Daniel's Concentrated Tincture Passiflora Incarnata. In my practice I consider your Passiflora a good stand-by, casting abominable opiates entirely out of use. In looking back over my past, and that of other physicians in my locality, I can see wrecks resulting from morphine and opium that would not have occurred had we gotten out of the old rut, and accepted the remedy God designed for the nervous system. I regard it as invaluable for neurasthenia, insomnia, and similar affections, and shall always prescribe it with the utmost satisfaction wherever indicated, and feel confident of success."

January 30, 1908.

LEUCORRHOEA.

Dr. J. D. Albright says: One of the most troublesome cases of leucorrhœa I was ever called upon to treat was one of ever and recurring liability to faint, in a lady who formerly had an attack of endometritis, which had been entirely cured, but which left a stubborn leucorrhea in its wake. The curing of this latter trouble has made my patient strong, and entirely removed the fainting tendency. In a severe case of the combination of these two affections, after I had exhausted almost the entire *materia medica*, without more than temporary relief, I found an excellent remedy in Tyree's Antiseptic Powder, which gave immediate relief, and resulted in permanent cure. A trial package will be mailed free of charge to physicians if they will send their name and address to Mr. J. S. Tyree, Chemist, Washington, D. C.

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ON THE USE OF DRUGS IN DISEASES OF THE HEART.

At a special meeting of the Medical Association of the Greater City of New York, Dr. Reynold Webb Wilcox, in discussing the action of different drugs on the heart, said: (*Medical Record*, February 8, 1908.) "There was only one drug which both increased the force and frequency of the pulse, and that was cactus. It was especially useful in neurotic heart and slow heart. If an active preparation was used, and such was readily found in the shops, brilliant results were obtained in appropriate cases."

Cactina Pillets is manufactured in our laboratory under the personal supervision of a pharmaceutical chemist, and we can assure the medical profession that Cactina Pillets express the excellent therapeutic properties of the true Cereus Grandiflorus in the fullest and in the most perfect and convenient form.

SULTAN DRUG CO.

INTERNAL MEDICATION IN GONORRHOEA.

Dr. Joseph Piket, Assistant at the Allgemeine Poliklinik in Vienna, in Berichte d. Versammlung Deut. Naturforscher und Aerzte, September, 1907, says "that the internal treatment of gonorrhœa has largely consisted in the past in giving balsamic preparations, which usually disturb the stomach, and by the excretion of resinous acids, irritate the kidneys, while normal kidney function is indispensable in the treatment of gonorrhœa. Balsams, moreover, have no bactericidal properties."

The ideal internal remedy in the treatment of gonorrhœa is one which renders the urine bland and unirritating, promotes the excretion of urine, has power to destroy the gonococci, and, at the same time, one that does not irritate the stomach or kidneys. In arhovin, an addition-product of diphenylamine and esterified thymyl-benzoic acid, these ideals seem to have been realized. It is non-toxic, has no harmful effects on the kidneys or stomach, and is gonococcicidal. Piket's experience for a period of over two years with arhovin is summarized as follows: "Arhovin is readily taken and well-borne, has no deleterious effect of any kind, limits secretion, hinders gonococcal growth, and possesses a marked sedative action."

A DISTINGUISHED AUTHORITY.

Dr. H. Marion Sims, the father of gynecology, said: "For severe dysmenorrhea, I have found Hayden's Viburnum Compound of great service." See notes by Marion Sims, Vol. No. 2, of Grailly Hewitt on Diseases of Women. Few drugs employed in the treatment of diseases of women have gained the commendation of so excellent an authority, and like expressions since the time of Sims have been uttered by many of the best men in the medical profession. Hayden's Viburnum Compound has stood the test of twenty-six years, and is the recognized standard Viburnum product by which imitators would measure. In the treatment of dysmenorrhea, whether of congestive, neuralgic or membranous type, Hayden's Viburnum Compound acts most promptly and effectively. In menorrhagia, where the flow is excessive as a result of any one of the several causes, Hayden's Viburnum Compound affords relief by imparting tone to the uterus and stimulating its contraction. Clinical evidence has conclusively proven that it is as effective as ergot without possessing the narcotic and dangerous properties of this drug. In obstetrical cases, Hayden's Viburnum Compound is of particular service. It modifies the pangs of childbirth by its soothing effect upon the nervous system, and by its antispasmodic action upon the uterus, making it particularly serviceable in cases of rigid os. On account of the reputation of Hayden's Viburnum Compound it is extensively imitated. However, only when the original Hayden's Viburnum Compound is prescribed can you be assured of definite therapeutic results.

PAMPHLETS.

Henry G. Graham, M. D.—"Morphology of a Ciliate Infusorian." (Lancet-Clinic, November 2, 1907).

John W. Wainwright, M. D.—"Some Examples of Chemical Synthesis as Applied in the Production of Remedial Agents." (Medical Record, October 26, 1907).

E. S. Goodhue, M. D.—"Mosquitoes and Their Relation to Leprosy in Hawaii." (American Medicine, New Series, Vol. II, No. 10, October, 1907).

H. K. Mulford Company, Philadelphia.—Working Bulletin, No. 2, on Tuberculin and Tuberculin Therapy.

GONOCOCCIC INFECTIONS AND THE PHYSICIAN'S RESPONSIBILITY.—By J. Bayard Clark, M. D., New York City.

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THE TREATMENT OF RECENT TRACHOMA. By Thomas A. Woodruff, M. D., Chicago.

GONORRHOEAL PROSTATITIS.—By J. Bayard Clark, M. D., New York City.

THE EYES AND EYESIGHT OF BIRDS, with Especial Reference to the APPEARANCES OF THE FUNDUS OCULI.—By Casey A. Wood, M. D., Chicago.

A MEDICAL CAREER AND THE INTELLECTUAL LIFE.—By Casey A. Wood, M. D., Chicago.

DR. JOHN PUNTON'S ANNOUNCEMENT of his Home for Nervous Invalids is a tasty and profusely illustrated pamphlet. Dr. John Punton, Thirtieth Street and Lydia Avenue, Kansas City, Mo.

TUBERCULOSIS IN CONNECTION WITH FOODS.—By E. F. Wright, author of "Plant Disease," Los Angeles, Cal.

This pamphlet lays emphasis upon the importance of phosphorized food in the treatment of tuberculosis. The author maintains that the food of consumptives should contain the maximum or normal percentage of phosphoric acid in the ash. He contends that if this were true, and the foods eaten by us contained enough of the other important food principles, iron, potash and nitrogen as well, this disease would be unknown.

MULFORD'S WORKING BULLETIN, No. 2. TUBERCULIN AND TUBERCULIN THERAPY. By H. K. Mulford Company, Philadelphia.

This pamphlet is an interesting account of the history of tuberculin and present theories upon its manner of action. It takes up the old and the new products, and gives a succinct review of the literature. The Mulford Company manufactures the following tuberculin products:

Tuberclun, "Old," and serial dilutions of same.

Tuberculin R, and serial dilutions of same.

Bacillen Emulsion and serial dilutions of same.

Tuberculin Ophthalmic Test Solution.

Tuberculin Ophthalmic Test Tablets.

Tuberculin Suppositories.

The little book is a valuable contribution, and serves as a good working manual for the physician who would be informed on tuberculin as a diagnostic and therapeutic agent.

BOOK NOTICES.

A SYNOPSIS OF THE THEORY AND PRACTICE OF NEUROLOGY, as Taught in the McCormick Neurological College, Chicago, Illinois. A Quiz Compend. By Charles McCormick, M. D. Published December, 1907. Full leather, flexible, $2.00; Cloth, flexible, $1.50.

This little work represents the theories of the McCormick School of Neurology. It is well written, and gives its substance in question-and-answer form.

COSMETIC SURGERY. The Correction of Featural Imperfections. By Charles C. Miller, M. D. Including the description of a variety of operations for improving the appearance of the face; 136 pages; 73 illustrations. Prepaid $1.50. Published by the author, 70 State street, Chicago, Ill.

The author is well known to the BRIEF readers, having contributed a number of papers, illustrating his methods on correction of featural imperfections. It is a handy volume, showing the technique of operations in plain form.

HOSPITAL TRAINING-SCHOOL METHODS AND THE HEAD NURSE. By Charlotte A. Aikens, late Director of Sibley Memorial Hospital, Washington, D. C.; Associate Editor of the *National Hospital Record*. 12mo of 267 pages. W. B. Saunders Company, Philadelphia and London. 1907. Cloth, $1.50 net.

This is a work that should be in the hands of every trained nurse and hospital superintendent. It is a practical treatise on how to make good nurses. It is thorough, and every line indicates that it has been written by one who knows. We cheerfully recommend it.

CHRONIC DISEASE. The Natural Method of Diagnosis and Successful Treatment. By W. H. Burgess, M. D., author of The New Field. (Avondale), Chattanooga, Tenn.

Within the 320 pages of this work the author tells many unique things, and proclaims his system of diagnosis and treatment. He does not profess to belong to any school in particular, but uses what he has found in his experience to be best. The work is written along liberal lines, covering a variety of diagnostic indications, in what he terms "the natural method."

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POEMS AND TRANSLATIONS. By Frederic Rowland Marvin. Troy, N. Y.: Pafracts Book Co.

The author says of this little volume that the verses brought together between covers is the result of other books from the same pen being received so cordially by the reading world much beyond his expectation, and, indeed, we share this public approval, if the charm these lines portray, is characteristic of his other works.

THE ELEMENTS OF HOMOEOPATHIC THEORY, MATERIA MEDICA, PRACTICE AND PHARMACY. Compiled and arranged from Homœopathic Text-books by Dr. F. A. Boericke and E. P. Anshutz. Second revised edition; 218 pages. Cloth, $1.00 net; postage 5 cents. Philadelphia. Boericke & Tafel, 1907.

The little work covers its field of usefulness pretty thoroughly. It gives some homœopathic bibliography for reference, treats the *Materia Medica*, tinctures, potencies and triturates in terse fashion, then gives a therapeutic index, alphabetically, of indications or symptoms for various remedies. That a second edition was required is evidence of the demand for it.

RABIES.—Its Place Among Germ-Diseases, and Its Origin in the Animal Kingdom. By David Sime, M. D. Cambridge: At the University Press, 1903.

This monograph is a splendid tribute to the work of Pasteur and those who followed in his epoch-making footsteps in investigating rabies. It is a study of rabies in a three-fold direction, its causation in the individual organism; its place among germ-diseases, with the end of bacterial agency in the animal economy; and lastly, its origin in the animal kingdom. It gives a complete description of the disease as it exists in the animal kingdom. Its reading will give the medical reader valuable information on this interesting disease.

THE PRACTICAL MEDICINE SERIES. Comprising ten volumes on the Year's Progress in Medicine and Surgery. Under the editorial charge of Gustavus P. Head, M. D., Professor of Laryngology and Rhinology, Chicago Post-Graduate Medical School. Series, 1907. Chicago: The Year Book Publishers, 40 Dearborn Street.

This is a valuable contribution to the literature of medicine, dealing with the up-to-date neurological literature. It is well illustrated with pictures portraying interesting neuropathic conditions. It should be in the library of those who have not time or opportunity to read the current special journals devoted to this specialty.

GONORRHEA. Its diagnosis and Treatment. By Frederick Baumann, Ph. D., M. D., Professor of Genito-Urinary Diseases in the Reliance Medical College, and Instructor in Dermatology and Venereal Diseases in the College of Physicians and Surgeons, Chicago. Fifty-two illustrations in the Text. New York and London: D. Appleton & Company. 1908.

This is a good compendium on the diagnosis and treatment of gonorrhea. It discusses the anatomy of the penis, and gives a good description of the disease, as we see it in its various manifestations. There is nothing new recently in the treatment of gonorrhea, so the work necessarily represents merely a summing up of the present knowledge on the subject.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Volume IV. Seventeenth Series. 1907. Philadelphia and London: J. B. Lippincott Company.

This well-known work needs no introduction at our hands, save to briefly state that the present Volume IV takes up Treatment, Medicine, Surgery, Gynecology, Genito-Urinary Diseases, Orthopædics, Neurology and Otology.

Among the interesting original articles may be mentioned "Five Years' Experience with an Anti-Typhoid Serum," by Professor A. Chantemesse; "The Ophthalmo-Reaction to Tuberculin, a New Means of Diagnosing Tuberculosis in Man," by Professor G. Calmette.

APPLIED PHYSIOLOGY. By Frederick A. Rhodes, Professor of Physiology, Medical and Dental Departments, Western University of Pennsylvania. A Manual of Pathological Physiology, showing the functions of the various organs in disease. Medical Press, Pittsburg, Pa. 1907. Price, $2.00, prepaid.

This book forms an admirable addition to the literature, being useful for students, and equally so for practitioners. It takes up the known facts of physiology, and showed how pathological states of the organs corroborate phy-

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siological axioms. It points out in brief, succinct fashion, the numerous physical changes in the body in disease. For instance, it goes over the circulatory disturbances which occur in cardiac lesions, giving all the physical signs and their *explanation* in physiological terms. In short, it is a work on physical diagnosis, backed up by scientific explanation of every statement. As such, we heartily recommend it.

REFERENCE HANDBOOK OF OBSTETRIC NURSING. A Reference Handbook of Obstetric Nursing. By W. Reynolds Wilson, M. D., Visiting Physician to the Philadelphia Lying-in Charity; Member of the American Pediatric Society. 32mo of 258 pages, illustrated. Philadelphia and London: W. B. Saunders Company, Philadelphia and London, 1907. Flexible leather, $1.25 net.

This little work is an admirable epitome of the duties of the obstetrical nurse. It gives a complete account of the management of pregnancy, and is not at all a bad book for a medical student or practitioner to read. It is practical and thorough. Certainly, its reading will teach all medical men and nurses many things which they might otherwise overlook.

HEALTHOLOGY. A study of the Science of Health. By Irving J. Eales, M. D., D. O., Belleville. Three parts in one volume, 211 pages. Illustrated. London: L. N. Fowler & Co. Price, $1.50.

Part I of this book is a study in practical dietetics: the chemical composition of the body and foods being carefully considered, and the effect of various foods on the system and health. Part II takes up ancient and modern fasting. Part III, the author's widely heralded fast for thirty-one days of the year 1907, from May 31st, nothing but fresh air and lemon water serving for subsistence. He gives the daily record of his fasting with observations and results. The book is entertaining to the searcher after dietetic and health experiments.

DISEASES OF CHILDREN FOR NURSES, Including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCoombs, M. D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia; Assistant Physician to the Medical Dispensary of the Hospital of the University of Pennsylvania. Illustrated. Philadelphia and London. W. B. Saunders Company, 1907.

This book is intended for the use of nurses who are in training for the care of children. It is written in an easy, simple and plain style. It takes up the subject of pediatrics in a scientific manner, and goes into the minutiæ. It gives explicit directions for the care of children, the bath, the giving of enemata, etc. No point seems to have been overlooked.

COMPEND OF SURGERY (Quiz Compend Series).—A manual for students and practitioners, including minor surgery and a complete section on bandaging. By Orville Horwitz, B. S., M. D., Professor of Genito-Urinary Surgery, Jefferson Medical College; Surgeon to St. Agnes Hospital; Fellow of the College of Physicians, Philadelphia. Sixth edition, revised and enlarged. One hundred and ninety-five illustrations and a hundred and four formulæ. Philadelphia: P. Blakiston's Son & Co. Price, Cloth, $1.00.

The fact that a sixth edition of this compend is found necessary speaks for its value. Thos. C. Stellwagen, Jr., M. D., Assistant to the Genito-Urinary Department of Jefferson Medical College, has carefully revised and edited this edition. Especial treatment of the subjects on Genito-Urinary Surgery and Fractures is given. The formulæ are in harmony with the subjects treated in the work.

A TREATISE ON PLAGUE.—Dealing with the Historical, Epidemiological, Clinical, Therapeutic and Preventive Aspects of the Disease. By W. J. Simpson, M. D., Aberd., F. R. C. P., Lond., D. P. H., Camb.; Professor of Hygiene, King's College, London; Lecturer on Tropical Hygiene, London School of Tropical Medicine; formerly Health Officer, Calcutta; Medical Adviser to the Government of Cape Colony, during the outbreak of plague in 1901; Commissioner for the Colonial Office to inquire into the Causes of the Continuance of Plague in Hong Kong. Cambridge: At the University Press. 1905.

Plague is now of great interest to Americans for the reason that it has been brought to our shores by Asiatics coming to California, also, because of its continuous presence in some of our

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island possessions. It is a disease that the average American physician will never see, yet for the above reasons, we should all be familiar with its course and aspect. This book gives a very distinct view of the subject.

A TEXT-BOOK OF PRACTICAL GYNECOLOGY FOR PRACTITIONERS AND STUDENTS. By D. Tod Gilliam, M. D., Emeritus Professor of Gynecology in the Sterling, Ohio, Medical College, and sometime Professor of Gynecology in the Sterling Medical College, Gynecology to St. Anthony and St. Francis Hospitals, Consulting Gynecologist to Park View Sanitarium, Columbus, Ohio; Fellow of the American Association of Obstetricians and Gynecologists; Member of the American Medical Association, of the Ninth International Medical Congress, etc. Second Revised Edition. Illustrated with 350 engravings, a colored frontispiece, and thirteen full-page half-tone plates. Philadelphia: F. A. Davis Company, publishers, 1907.

This is a good text-book on gynecology, written by an experienced, practical operator. There is nothing especially original in the book, and, in fact, one does not expect originality in the text of a book on this muchly discussed subject. It ought to be a good working manual for the student or practitioner.

SQUINT AND OCULAR PARALYSIS. By E. Lucas Hughes, M. R. C. S. (Eng.), L. R. C. P. (Lond.); Fellow of the Royal Institute of Public Health; Clinical Ophthalmic Assistant, Royal Infirmary, Liverpool; late Clinical Ophthalmic Assistant, Westminster Hospital; Assistant Service Maladies Des Veux Lariboisière, Paris, etc. Illustrated by the author; 206 pages. London: H. K. Lewis. Price, $1.65.

This work is written in sixteen chapters, divided into three parts: Squint, Ocular Paralysis and Disturbances of Muscle Balance. The author is well known to the MEDICAL BRIEF readers, having been a frequent contributor. His papers have been widely quoted. The aim of the work is to compare some of the most practical methods of the English and foreign schools. Many authorities are quoted, among them, Ball, Browne, Stevenson, Terrien, Critchett, Norton, Javal, Fuchs, and others.

To the student and refractionist this work is of much value. The author extends his warmest thanks to his friend and former teacher who is also so well known to the BRIEF readers, Dr. Wm. Murrell.

LIGHT AND X-RAY TREATMENT OF SKIN DISEASES. By Malcolm Morris, F. R. C. S. (Ed.), Dermatologist to King Edward the Seventh's Hospital for Officers, Surgeon to the Skin Department of the Seamen's Hospital, Consulting Surgeon to the Skin Department of St. Mary's Hospital, and S. Ernest Dore, M. D., (Cantab.), Assistant in the Skin Department of the Middlesex Hospital. With twelve plates. Chicago: W. T. Keener & Co. 1907. Price, $1.50.

The book is designed to furnish the practitioner with an idea of the conservatism of X-ray and Light therapy. It takes up the experiences of the authors in dealing with malignant growths and skin diseases in general by the new therapy of X-ray and Finsen light. It describes the instruments and technique of this kind of work, well illustrated by appropriate cuts of the X-ray machines.

The work states clearly and concisely just what the limitations, and just what the possibilities are in this branch of therapeutics. It is not written in an overly-enthusiastic manner—as is the case with most books on X-ray therapy —and certainly deserves commendation on that score.

THE OPERATIONS OF SURGERY. Intended especially for the use of those recently appointed on a hospital staff, and for those preparing for the higher examinations. By W. H. A. Jacobson, M. Ch., London, F. R. C. S., Consulting Surgeon, Guy's Hospital, and R. P. Rowlands, M. S., London. F. R. C. S.; Assistant Surgeon and Surgeon to the Orthopædic Department, Guy's Hospital; Joint Teacher of Operative Surgery in the Medical School. Fifth Edition, with 777 illustrations. In two volumes. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut street, 1908.

This work, of which the previous editions appeared in 1888, 1891, 1897 and 1902, was the outcome of a strong belief on the part of the writer, Jacobson, that a work on Operative Surgery which aimed at being more comprehensive in scope and fuller in detail than those already published, would be of service to many who have been recently elected to hospital positions. For these, and for these only, not for those with a large surgical experience, is the work intended.

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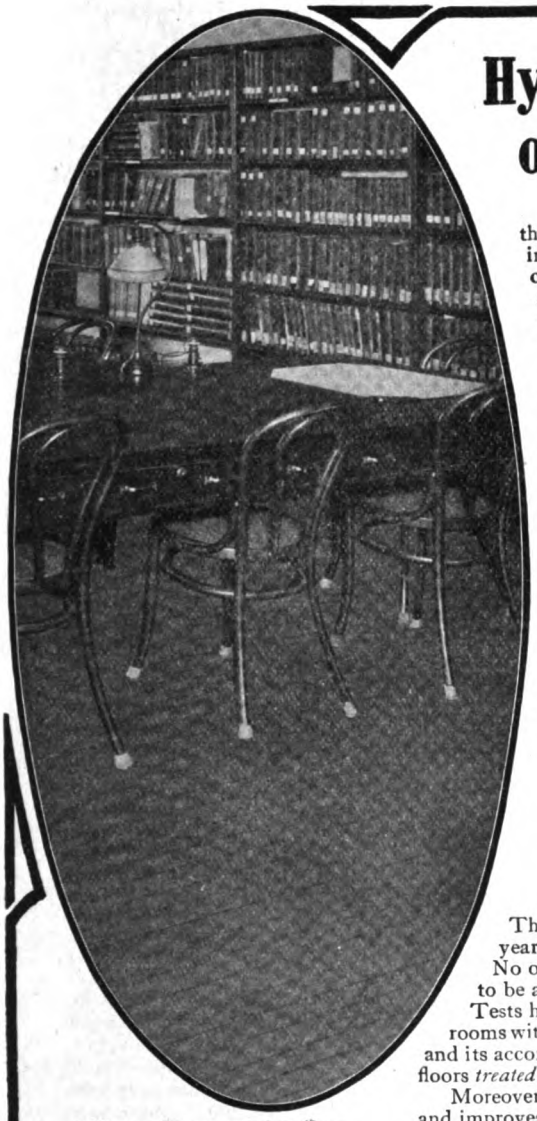

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The hygienic importance of dustless floors is to-day of as much significance as proper ventilation. Schools, hospitals, sanitariums, stores, offices, corridors and public buildings all have large floor spaces which collect dirt and dust with great rapidity. This dust, with its living millions of micro-organisms, is easily set in circulation—the slightest current of air will do it—a person walking will stir into action a certain amount of dust.

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This preparation applied to floors several times a year will reduce dust *nearly one hundred per cent.* No other agent has yet been discovered that begins to be as effective as Standard Floor Dressing.

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Moreover, it preserves the floors and improves their appearance—prevents them from splintering and cracking and greatly lessens the labor in caring for them.

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The subject of surgery is taken up by regions, each operation considered, discussed and preference indicated. The illustrations are good, together with the text, forming an admirable method of teaching surgery didactically. Of course, we all know that actual operating upon the cadaver is the prime condition of working out surgical technique. This work would serve well as a guide in performing this cadaver operating. At the same time it is a useful book to have in order to refresh the memory of the "occasional" surgeon, preparatory to invading the tissues.

THE MEDICAL AND SURGICAL KNOWLEDGE OF WILLIAM SHAKESPERE.—With Explanatory Notes. By John W. Wainwright, M. D., New York. Published by the author, 1907.

No works of pure literature have furnished more varied material to the student and commentator than the dramas of William Shakespere. They have been approached from all sides, and everyone who has delved into their treasures has brought to light something, the very existence of which had never been suspected. If Shakespere was actually possessed of all the qualities attributed to him, he must have partaken more of the nature of a divinity than of the attributes of a mortal. The lawyer has proved that his knowledge of law and of its essence was varied and extensive; the philosopher has been amazed by the profundity of his insight into the reality behind the apparent flux of phenomena; the moralist finds in him an understanding of the hidden springs of human action, and would elevate his maxims almost to the dignity of axioms; the statesman appeals to him in the heat of parliamentary debate, and clinches an argument by a sentence that seems made for the occasion.

Dr. Wainwright has studied the works of the master from the point of view of the doctor of medicine. A man of broad culture, as well as a distinguished physician, he is eminently qualified for the task he has essayed. He has collocated numerous passages in which reference is made to disease and its cure, and in every instance elucidates the text by notes. For convenience, the matter is divided into sections, under the headings: Medicine, surgery, mental and nervous diseases, obstetrics and midwifery, therapeutics, pharmacy and toxicology, anatomy and physiology, hygiene and dietetics, ethics and medical jurisprudence.

An interesting feature of the work is the frontispiece portrait of Shakespere, an engraved reproduction of the famous Droeshout portrait, painted when the poet was about fifty-five years old, and believed by competent authorities to be the only one in existence which was painted in his lifetime.

The appearance of the book is artistic in the highest degree; the paper is handmade, deckel-edge; the margins are wide—a desideratum in the eyes of those, who, like the reviewer, believe that a good book is one which produces copious stimulation in the jotting down of marginalia.

The book should find a place in the library of every lover of the Swan of Avon. The edition is a limited one, and each copy bears the author's autograph signature. Price, $2.50. Published by *Dietetic and Hygienic Gazette*, 33 West 42d Street, New York City.

THE PANCREAS, ITS SURGERY AND PATHOLOGY. By A. W. Mayo Robson, D. Sc. (Leeds), F. R. C. S. (Eng.) of London, and P. J. Cammidge, M. D. (Eng.) D. P. H. (Camb.), of London. Octavo volume of 546 pages, fully illustrated. Philadelphia and London. W. B. Saunders Company, Philadelphia and London, 1907. Cloth, $5.00 net. Half Morocco. $6.50 net.

This valuable work compiled by Robson and Cammidge, deserves a special niche in the hall of medical literature, because it definitely draws attention to the possibility of making a diagnosis of pancreatic disease during life—a fact which has hitherto been overlooked in the standard works on internal medicine. It is a carefully written work upon what is usually considered an "organ of mystery." It opens up with a complete description of the anatomy and embryology of the pancreas, a *sine qua non* for a correct appreciation of the latter contents devoted to pathology and diagnosis. It is true that most of the information in the past relating to the function and diseases of the pancreas has been gleaned from the dissecting-room or autopsy table, but this work teaches what has been learned from surgical manipulation of the organ, from urinary examinations, from feces analyses, and from animal experiments (mostly vivisections).

The attention of practitioners can be more particularly directed to the excellent chapter on diabetes, in which the meager pathology in the pancreas in

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such cases that come to autopsy is fully discussed. The work upon the Islands of Langerhans is thoroughly detailed, with the observations of Opie and others who have paid special attention to the pancreas at autopsy.

The work contains 546 pages—quite a large work for the consideration of but one anatomical structure, yet the hitherto meager literature upon this organ certainly demands such a wide discussion. We can recommend it to all to whom a study of internal medicine appeals.

A TEXT-BOOK OF MINOR SURGERY. By Edward Milton Foote, A. M., M. D., Instructor in Anatomy, College of Physicians and Surgeons Columbia University; Lecturer on Surgery, New York Polyclinic Medical School; Visiting Surgeon, New York City Hospital; Visiting Surgeon, St. Joseph's Hospital; Consulting Surgeon, Randall's Island Hospitals and Schools. Illustrated by four hundred and seven engravings from original drawings and photographs. D. Appleton & Company: New York and London, 1908. Price, $5.00.

There is undoubtedly a field for writing upon minor surgery, for it is minor surgery that most surgeons are called upon to daily practice; it is the lot of but a limited few to do major operating. As the author remarks, the field of minor surgery is neglected, and what wonder it is, then, that the physician, untaught and unread in minor surgery, fails to achieve good results, and that more bad surgery is performed upon the hand than upon the organs of the abdomen?

This work goes over methodically the numerous procedures and operation in minor surgery. A good point in the work is the photographic illustrations of disease conditions, as well as illustrations of the instruments needed in operations like tonsillotomy, etc.

Minor surgical technique is described in full, asepsis, the operating room, preparation of the hands, the patient, solutions, anesthesia, treatment of the wound, control of hemorrhage, drainage, etc.

The writer claims that it makes but little difference whether a patient comes with a full meal in his stomach to take a general anesthetic, claiming that the danger of vomiting from anesthesia is greatly "exaggerated." He says. "aspiration pneumonia need not be greatly feared, and that if the patient vomits, the material should be

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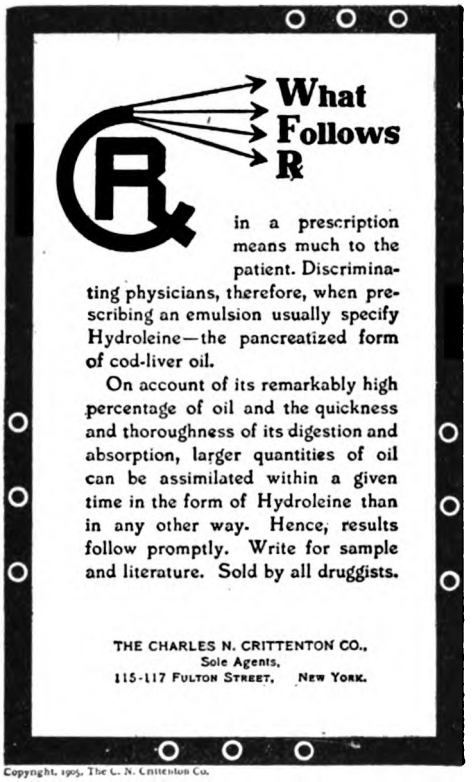
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given free exit and his mouth wiped out; that is all." We wish to challenge this statement sharply and determinedly, and trust that the readers of the book will also challenge it, and insist in every possible way upon operating upon patients with empty stomachs. There is always danger in the vomiting of food during general anesthesia. If only one case occurred in one thousand operations, the danger would be sufficiently great to warrant one in avoiding it. Beyond this one statement, we can heartily endorse the book in its entirety.

Important Notice.

On January 23, 1908, the private mail box of the American Thermo-Ware Co., of New York, was broken into and mail stolen. The company wishes those who have been in correspondence with them to send copies of their letters.

Facts vs. Fancies.

You can prescribe bichloride, carbolic, permanganate, hydrastis, tannin, zinc or lead, for leucorrhea or gonorrhea, if you want to, but you can't get any more positive results, effects quicker but harmless, no matter what you use, than Tyree's Anticeptic Powder will give you. It comes as near absolute perfection as material and skill can make it. Nothing can be put into a preparation for inflammation of the vagina and cervix to make it more desirable and satisfactory than is found in this one. You get the best antiseptic astringent and detergent known, all in one so modified by proportion and treatment that their individual objections have been eliminated. The bland, gentle and quick effect of this powder is due in part to the selection of chemical agents as near non-corrosive in their natures as possible, treating them by a process of trituration by which a degree of harmless activity is acquired almost equalling that of the more powerful corrosive agent. Actual clinical tests have proven this statement to be absolutely correct in more than two thousand cases. Being cheap, cleansing, harmless, and very soluble, it can be used in such quantities as to insure more positive results than could be expected from an agent which must be used with precaution. A trial package will be mailed free of charge to physicians if they will send their name and address to J. S. Tyree, Chemist, Washington, D. C.

Puberal Anemia.

It is a commonly accepted belief that chlorosis is a disease of the female sex, and to these during the child-bearing period. The fact has been overlooked that there is a disease condition of the blood affecting both sexes which occurs at puberty, and may be designated "puberal anemia." The condition is insidious in its onset, and is characterized by pallor or bloodless appearance quite different from the greenish hue of chlorosis. Examination of the blood shows a greater or less decrease of hemoglobin, but unlike chlorosis, the red cells and total quantity of the blood are lowered very markedly. The specific gravity is raised in puberal anemia, but lowered in chlorosis. In puberal anemia, the pulse is invariably feeble and empty, while in chlorosis it is often dull, and even of excessive pressure.

The paramount need in this condition is to stimulate hematopoiesis, and for immediate effect in this direction Pepto-Mangan (Gude), has been found of great value. At the same time, the best of food, outdoor life and general good hygiene is recommended.

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., APRIL, 1908. No. 4.

THE X-RAY IN APPLIED THERAPEUTICS.*

BY ALBERT C. GEYSER, M. D., New York City,

Instructor in Radiography and Radiotherapy at Cornell University Medical College; Lecturer in Electro-therapy and Radiography at the New York Polyclinic; President of the New York Physical Therapeutic Society; Secretary of the American Electro-therapeutic Association, Etc.

[Written for the MEDICAL BRIEF.]

Three conditions confront us in the use of any agent we wish to use therapeutically. First, it is well to understand the physical properties of the agent, for this usually leads to the second, or the physiological capabilities of the same; while a knowledge of the two will assist us in applying it to pathologic states.

What is the X-ray? Its discovery is now history. To say that it is electricity in some form is simply begging the question. We must know, then, what electricity is before we can understand the physical properties of the X-ray.

If we come right down to the last and final division of all that surrounds us, the world, the stars—in fact, the entire universe—we are compelled to recognize three, and no more than three entities. These three physical entities are: *Matter, Ether* and *Energy.*

Each one of these three possesses special properties whereby they essentially differ from each other, yet each one is directly influenced by the presence of the other. Thus, all matter has weight and fills space.

Ether is that elusive substance that seems to exist principally in a negative form, yet it is everywhere, and is absolutely essential. We can not see, hear, taste, smell, nor feel it; nevertheless, we can, by many experiments, prove its existence. Without the ether there could be no waves or radiations of light and heat from the sun. The ninety-three millions of miles from the sun to us must be filled with something; nature abhors a vacuum, and there is no such thing as emptiness.

Energy is that power which changes the state of motion of all bodies. Just as there is no emptiness, so there is no such thing as rest. The very particles of a solid piece of steel are in a state of perpetual, unremitting quiver. This motion is vibration; the cause or the power that continues or changes this vibration is energy.

* Read before the Medical Society of the Borough of Bronx, January 8, 1908.

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We started out to define electricity; shall we say electricity is matter? No, it does not possess weight, neither does it occupy space. Yet electricity can not manifest itself without matter, for something must be electrified. Is electricity ether? No, because electricity may be manifested to our senses, and is tangible; but electricity requires the ether, for it is only the ether that occupies all intermolecular space that conducts electricity. Ether, therefore, is not electricity, but essential to it.

Is electricity energy? No, since energy is possessed by all bodies, and only under certain conditions is electricity manifested. We may have energy without electricity, but not electricity without energy.

We have thus reduced the entire universe to three terms: Matter, Ether and Energy. It was shown that not one could, by itself, and without the other, exist. In reality these three entities are so closely interwoven with each other that they really become one, and this one, whatever that may be, is necessary for the existence and manifestation of a certain condition we call electricity.

Electricity is essentially vibration; the rate and magnitude of this vibration is fixed by certain physical laws of which we are more or less conversant.

Electricity, ordinarily, travels at the rate of two hundred and ninety thousand miles per second, with a certain range of wave length. When a current of a sufficiently high tension or pressure traverses a glass sphere from which all the air that can be removed, has been removed, the waves, or oscillations, become shorter, but increase in number enormously. The waves finally become so small that ordinary substances offer little or no resistance to the vibrations, and they are, therefore, capable of passing through various substances and becoming manifest again after such passage. This phase of an electric current, on account of its similarity to a ray of light, has been called X-ray. X-ray, because it acted like a ray of light, and yet would not obey the ordinary light rays. The X-ray can not be deflected, nor refracted, nor bent from its course by a magnet, but through many substances passes as light does through glass. The X-ray is invisible, the same as electricity; no human eye has ever seen the X-ray, but the effects of the X-ray may be studied in detail. So much, then, for the purely physical properties of the X-ray.

It has been said that all things are in a constant state of motion, or, rather, vibration. It naturally follows that the smaller the various particles of any substance, the greater should be its rate of vibration. The ether, no doubt, possesses the smallest of all particles, and the vibration of the ether particles is electricity.

If the string of a violin be caused to vibrate in a room where there is a piano, every string in the piano of the same pitch will vibrate in sympathy with the violin string. Not only that, but every string possessing octaves below and above it will also vibrate if the initial vibration is strong

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enough, and the piano strings in harmony with it. Again, if two or more rates of vibration exist at the same time, the stronger will destroy the weaker. In nature there is no such thing as discord; all and everything is harmony.

Each and every manifestation of life depends upon certain rates of vibration. The cells composing the organs of Cortie in our ears respond or vibrate in sympathy with all rates between eighteen per second up to forty thousand per second. The cells of Cortie can not respond to vibrations, though they may be in harmony after the rate of forty thousand. The rods and cones of our eyes are capable of responding to vibrations when they reach four hundred thousand billion to seven hundred thousand per second. We recognize these rates as light and the various colors.

There is much food for speculation in the thought that there exist sound-waves that no ear can hear, and color waves of light that no eye can see. The sum and substance of all this is that every single cell in our body is in a continuous state of vibration; more than that, it is harmonious vibration. The cell, as we know, is a complex arrangement of a cell membrane, protoplasm, nucleus and nucleolus. All these must *be* in harmony, and *remain* in harmony with each other and their neighboring cells. The very moment that discord or inharmony is caused to exist, that moment disease begins, and death of the part follows.

The X-ray evidently possesses a rate of vibration far in excess of seven hundred thousand billions per second, because our optic mechanism is unable to respond to it.

When the cells of our body are brought under the influence of X-ray vibrations, the cells either vibrate in sympathy, and so become actuated to a greater activity; hence we produce stimulation in the part, or the vibrations of component parts of a cell may be arrested, their vibration may cease, and so we cause inhibition. Should this arrested motion last too long discord would ensue, with the unavoidable alternative of death of the part.

We have, then, three distinct effects from the X-ray, viz.: Stimulation, inhibition and destruction. These effects are not sharply defined; a large dose of stimulation by over-stimulation causes inhibition; a large dose of inhibitory effect would cause disintegration and death. It is not, then, the X-ray, but rather the way in which the various parts of the body respond to the X-ray that furnishes us with these varying results. It, therefore, depends entirely upon the state of the tissue at the time of exposure.

This property of the X-ray to cause disintegration of tissue is due to the ionizing effect.

So much, then, for the physiological properties of the X-ray.

X-ray therapeutics, like all therapeutic measures, are only useful when applied to a pathological process.

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The human body is subject to only three conditions, or states, viz.: Normal, sub-normal or above normal. The normal body requires no therapeutics; the sub-normal conditions evidently require something of a stimulating nature. The X-ray is hardly indicated, although it does possess a small amount of stimulating properties. But as has been pointed out, the slightest amount of over-stimulation causes inhibition. That brings the X-ray down to practically one condition, and that is where some organ or tissue is above normal. In other words, the destructive action of the X-ray far exceeds all its other qualities. It apparently also possesses a predilection for glandular tissue, and the more highly organized the gland the greater is the destructive effect.

Only a few years after its discovery it was noticed that nearly all X-ray workers had become sterile. There was a complete absence of spermatozoa. This effect has since then been amply verified upon dogs, cats, guinea pigs, hen's eggs, frogs' eggs, seeds of various kinds.

I have under treatment two females, who for pathological reasons, should not again become pregnant. These patients have been under treatment three and four years, respectively. Every three months they receive X-ray exposures for fifteen minutes every other day for one week. So far the results are eminently satisfactory.

Pathological glandular overactivity is found in many skin lesions, such as epithelioma, lupus vulgaris, sycosis, favus, acne simplex, acne nodosum, eczema, hypertrichosis, hyperidrosis, etc. All these conditions are the result of some irritant in the system causing over-production which becomes pathologic. The X-ray is indicated in varying doses in each one of these conditions. While it must not be looked upon as a specific to the exclusion of other measures, such as eliminants and suitable diet, nevertheless, as far as the local effect is concerned, there is no agent that will so quickly and surely, and so perfectly remove an epithelioma as the X-ray. The cosmetic effect in nearly all these skin diseases far exceeds all other known methods.

It has been my good fortune, during the last few years, to treat, besides these skin lesions, a large number of constitutional diseases. One of the best results from the X-ray is seen in cases of Hutchinson's disease, tubercular glands, tubercular joints, splenic leucæmia, etc.

Just a word about the much-dreaded so-called X-ray burn: We are well on the way of eliminating this troublesome part of the X-ray. One month ago I had the privilege of presenting to the dermatological section at the academy a technique that has, for the past three years, succeeded in over five thousand applications of preventing even as much as an undesirable reaction.

A specially constructed tube, "The Cornell Tube," designed by myself, is, contrary to all expectations, brought into direct contact with the lesion. No rays escape anywhere excepting directly upon the site where needed.

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The operator, as well as the patient, are at one and the same time protected.

The successful use of the X-ray, therefore, depends upon the fact that the X-ray, primarily, is a destructive agent. When a destructive agent is applied to the tissues, there ensues a reaction: it is this reaction to the ray that is turned to therapeutic usefulness.

The application of the actual cautery, painting a joint with iodine, the production of a blister, touching a part with lunar caustic; all these, and many more, are destructive agents, yet, if properly applied in suitable cases, cause a certain reaction by the tissue; the virtue lies in the reaction, not the agent.

1239 Madison Avenue.

THE VITAL IMPORTANCE OF URINALYSIS IN CASES IN AN UNCONSCIOUS STATE AND OF UNCERTAIN HISTORY.

By Frederick E. Beal, M. D.,

Lecturer on Clinical Medicine in the New York Polyclinic Medical School and Hospital; Attending Physician to Northwestern Dispensary, New York City.

[Written for the Medical Brief.]

Two cases, which during the month of October came into my service at the New York Polyclinic, impressed upon me with renewed force the importance of making prompt use of our best diagnostic methods in every case and not take for granted what is told us by those who have previously seen the patient. Not in the sense of belittling such previous opinion, but for the sake of the patient as well as the profession, we should give each case our very best efforts without prejudice. These two cases occurring at almost identically the same time, seem of sufficient importance to warrant my reporting them.

Mrs. M., aged thirty-eight years, married, was admitted to my service October 12, 1907, at 6:45 P. M., with a definite history, loquaciously reported by an excited husband, of typhoid fever with perforation of the bowel, demanding an immediate operation. I rather hastily examined the patient for signs and symptoms of perforation and found none. There were no points of tenderness, no distention of the abdomen, no symptoms of typhoid either in abdomen, breath or involuntary stools. Temperature 102° F., pulse one hundred and ten, with the patient lying in deep coma, from which she could be aroused only after great effort. Because of the extreme edema I found in her limbs, extending even above the knees (notwithstanding the fact that the husband confidently asserted that this condition had existed for a long time and had nothing to do with her present illness), and also because of the marked accentuation of the second aortic sound heard over the aortic region, I ordered the house surgeon to catheterize and make a quick examination of the urine.

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About this time I was called hurriedly to see a case on another floor of the hospital, that was brought in as an emergency case of obstruction of the bowels, demanding immediate laparotomy.

Taking advantage of the time required to make the urinalysis in the first case, I found the condition of the second case as follows: Miss K., aged forty years, unmarried, formerly an actress of considerable fame. Because there had been gradually increasing unconsciousness, and no movement of the bowels for three days, her attending physician believed it to be a cause of obstruction of the bowels and ordered the patient into the service of one of the professors as an emergency case. Examination revealed a temperature of 99° F., pulse one hundred and thirty, sharp and distinct. Pupils not markedly dilated. No rigidity nor distention of the abdomen. Only by careful palpation could the presence of any mass be discovered therein.

Respirations, which I would call especial attention to, were laborious and stertorous on inspiration; soft, sighing and inaudible on expiration. Coma was so profound that it was impossible to cause the slightest indication of consciousness. The characteristic acetone odor of the breath was noticeable.

Again I ordered immediate catheterization and hurried examination of the urine, in which was found nine per cent of sugar, the presence of acetone, with an excess of ammonium. I immediately counseled that the patient was dying from diabetic coma and that there was no evidence of any obstruction of the bowel, and even if it had existed, operation was wholly contraindicated. This patient lived some nine hours, gradually sinking and dying in typical diabetic coma.

Reverting to the first case, an examination showed almost solid albuminous urine (the pathologist reported that he had never seen urine more dense), with casts, hyaline, granular and bloody. A diagnosis was unqualifiedly made of parenchymatous nephritis.

This patient's subsequent history is of interest. Her temperature steadily rose for four days and despite all efforts in the way of diuresis, diaphoresis and hydragogues, it reached 107° F. At this time we were able to induce some movements of the bowels—markedly watery stools, when her temperature dropped to 103° F. Her pulse even when temperature reached 107° F., remained between one hundred and one hundred and ten. She continued in this comatose condition until her death four days later.

I simply offer these cases in evidence of the importance of the examiner making a careful study of each case, and not accepting the diagnosis of the attending physician, whose responsibility ends where his begins.

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REPORT OF A CASE OF ANEURISM OF THE SUBCLAVIAN; LIGATURE IN THE FIRST POSITION; RECOVERY.*

By Herman E. Pearse, M. D., Kansas City, Mo.

The cure of aneurism is a matter for operative procedure only; the so-called "medical" treatment by aconite, iodide of potassium, and other cardiac depressants, gives a record of scant success. The only generally successful method has been the ligation of the vessel with or without excision of the sac and in later years the intrasacular suture after the method of Matas of New Orleans. Where the aneurism can be isolated and all branching vessels easily secured and ligated and the entire sac reached and removed, the double ligation, proximal and distal, with excision of the sac, offers the greatest certainty of cure. The establishment of collateral circulation must be considered, and the question of the life of the part supplied by the vessel must be weighed and risked.

The case presented here was one in which these chances and all others had to be taken, on account of the desperate nature of the growth and the certainty of disaster if it were left to take its course. The patient, Mr. G., a Swede, age forty-one, is a well-built, muscular man, in robust health. He consulted me early in May, 1906. He is a locomotive engineer by occupation, running on the Frisco railroad. He was never ailing except that about November, 1905, he noticed a "big pulse," as he described it, on the right side of the neck at the level of the collar bone.

About February he began to suffer pain in the arm and to feel tingling sensations in the ring finger and little finger of the right hand. He was treated for rheumatism at first until the doctor found out about the "big pulse in the neck," when a diagnosis of aneurism of the subclavian artery was made. He went to his company surgeon, but received no encouragement of possible cure. He then went to the company surgeon at Thayer, Mo., Dr. Edwards, who called Dr. Harvey Maloney in consultation. Dr. Maloney advised him to come to St. Luke's Hospital and place himself under my care. The docetor wrote: "I have a patient here who has an aneurism of the right subclavian artery external to where the cerebral artery is given off. He is a Swede, about forty-one, single, good habits, physical condition good, except some trouble with right arm. Now from a medical standpoint there is nothing to offer this man. What can you do surgically? He is fairly well fixed and is anxious to have something done if there is any chance. He will come up to Kansas City any time to see you. Let me know just what you think about it." I reproduce the letter as an example of clear-cut definite English and frank, terse, statement of fact.

I found upon examination a pulsating tumor in neck on the right side. It lay behind and also on each side of sterno-cleido-mastoid muscle, but

*Read at the meeting of the Missouri State Medical Association, May, 1907.

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mostly external to it. It rose above the clavicle for about two inches. It gave only a faint bruit over its body, but over the base of the heart and the right subclavian region it gave a pronounced one. Radial pulse of right side pronounced; left side absent on account of old injury to the left arm. I advised him that the case was possible of operation, but one that carried about it a ninety per cent death rate. I gave him the facts and figures as follows:

The American Text Book of Surgery, 1892, page 243, says: "If the aneurism is small and limited to the third portion, digital pressure upon the proximal side of the subclavian, although difficult for anatomical reasons, may be attempted in conjunction with constitutional treatment. Pressure directly upon the sac has been successful in a few cases. If compression fails, the artery should be ligated upon the distal side, since proximal ligation has proven ineffectual. It may be necessary, where other means have failed, to ligate the artery on the proximal side as a preparatory step, and then immediately to amputate the arm at the shoulder joint."

Deaver reports sixteen cases of ligation at the first portion, with thirteen deaths (1889).

Bryant reports twenty-one cases with nineteen deaths (1899).

Dennis quotes Ashurst in the Int. Encyclo. Surg., Vol. III, reporting fifteen cases with thirteen deaths (1902).

Twentieth Century Practice, page 589, quoting from Ballance and Edwards' "Treatise on Ligation of Great Arteries with Observations on the Nature and Progress of Aneurism" (McMillan, London, 1891), reports fourteen cases, all of which died—mortality of one hundred per cent.

I am unable to present figures and statistics of a later date than the above, which shows sixty-six cases with fifty-nine deaths—a death rate of ninety per cent. I submitted these facts and figures to my patient and he requested me at once to operate. Before doing so, I asked him to consult Dr. George M. Gray, the surgeon of St. Margaret's Hospital. This he did, Dr. Gray confirming the diagnosis. Desiring to secure for my patient the advantage of Dr. Gray's well-known skill, I requested Dr. Gray to be with me at the time of operation, which he kindly consented to do. I set the day of operation for May 25, 1906, and directed that the patient lie quietly in bed for the intervening two weeks. I also gave him a dose of ten grains of iodide of potash after meals three times a day. I believe the two weeks' rest and iodide had not a little to do with the successful outcome of the case.

May 25th the patient was etherized by Dr. H. C. Andersson, and an incision was carried along the surface of the clavicle and upward along the posterior border of the sterno-cleido-mastoid muscle. We had confirmed Dr. Maloney's diagnosis of the growth, *i. e.*, external to the verte-

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bral artery, but upon opening we found that it also extended inward in a fusiform shape beyond the scalenus anticus muscle, thus calling for ligation of the artery in its first portion. By this time we had divided the platysma myoides muscle and the superficial and deep fascia down to the subclavian triangle. The sternal and clavicular heads of the sterno-cleido-mastoid were cut away and laid back. The external jugular vein was tied and cut and the tissues cleared away, down to the deep triangle, *i. e.*, the first rib below, the brachial plexus externally, and the scalenus anticus muscle internally. The sterno-hyod and the sterno-thyroid muscles were divided at their origin and laid back. The thyroid veins were pulled down and held out of the way with the subclavian veins, thus exposing the common carotid artery behind the posterior border of the sterno-mastoid. Here two difficulties presented: first, the growth had enlarged downward until the clavicle was in the way; and, second, the prevertebral fascia prevented us reaching the bifurcation of the innominata. After wasting much valuable time in attempting to reach a portion of the first part of the subclavian that would bear a ligature we abandoned the efforts and, packing the wound with sponges, we resected the clavicle, cutting it in the center and breaking the ends backward left and right.

Then we returned to the task of freeing the sac and, having failed in our efforts to reach the proximal end, we turned the outer angle of the triangle, pulled up the brachial plexus, pushed down the subclavian vein, exposed the outer end of the aneurism, and when in healthy artery, we ligated at the distal side at two points, cut the artery between ligatures and lifted the sac upward. The scalenus muscle was cut and laid back. The superior intercostal artery was ligated and cut. The thyroid axis had fused into the sac and its separate branches had to be tied and divided. The internal mammary, and after it the vertebral, were tied and cut through. The pulse at the wrist had by this time entirely ceased and the hand seemed to be suffering for blood supply.

The growth (a large fusiform aneurism) was now turned over toward the neck and dissected loose from its attachment to the pleura and the upper mediastinum. The phrenic nerve and the carotid vessels were held away and we saw, to our intense relief, that the innominata was very short, almost absent, and a sufficient length of healthy artery showed beyond the growth with strength to bear ligature. It was ligated at once, with strong silk and the aneurism sac cut away. The cut end of the artery was left long and was tightly sewed together by an intrasacular suture and the cut surfaces afterward "whipped over and over" with a celluloidine thread. The muscles were now replaced and sutured and the clavicle returned to its bed and wired; a drain was inserted, as about a dozen bleeding points had been ligated, and the wound closed.

Dr. Gray, Dr. Moenninghoff and myself had worked hard for three hours and ten minutes. There was no accident, no hemorrhage and no

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shock; the arm was bandaged and wrapped in cotton, flexed and laid across the body and external warmth applied. The color of the hand soon improved. The patient rallied perfectly. He ate and rested and slept, and made no complaint, only calling to me each day with a joke and a laugh, "there has been no secondary hemorrhage yet." So day by day he improved until we could shake hands and congratulate him upon the fact that no more chance remained for the dreaded secondary hemorrhage to occur. The drain was removed early, but suppuration occurred about the sternal fragment of the clavicle about two weeks after the operation and it had to be removed. The outer end held and lived.

He resumed his duties as an engineer November 1, 1906, and has been steadily working ever since. There is a strong right arm and shoulder, and he can handle his engine as well as ever. The radial pulse was first noticed in March, 1907, when he was presented before the Jackson County Medical Society for examination. I believe the collateral circulation was established as follows:

I. ABOVE. 1st.—The blood of the ligated vertebral is soon replaced by anastomosis with its fellow of the left and with anastomosis with the thyroid axis on the left. 2d.—The anastomoses of the ligated thyroid axis are maintained and blood is passed to the branches of the axillary.

II. BELOW. The intercostal arteries anastomose with the superior thoracic, long thoracic and subscapular. There are other small channels about the shoulders in such a healthy, well-developed subject, which nature may make use of to re-establish the normal current of the arm.

Suffice it to say that the circulation is now fully restored and the man has as good an arm as he ever had, so far as I can determine.

The case is reported in the hope that it may encourage others to attempt the cure of such cases rather than to leave them to the suffering and death that comes of uncured aneurism.

ADMINISTRATION OF ASPIRIN.

Alfred Martinet, in the *Presse Medicale,* recommends the following procedure in the administration of aspirin: The first dose should not exceed 0.4 to 0.5 gram, and the succeeding doses should be increased only after the toleration of the patient has been determined.

It is to be given in a hot infusion of some substance with diaphoretic properties—*e. g.,* sage—and the simultaneous administration of a cardiac stimulant, such as caffeine, is recommended. Before the specific action of aspirin becomes apparent, the patient should be kept in bed while the first doses are being administered, and fresh warm linen should be held in readiness for quick change in case of profuse perspiration.

Should extreme weakness ensue, strong coffee with sugar may be administered, and the patient's head placed in a low position.

These precautions are, of course, not necessary in the case of patients who are able to bear aspirine.

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APPENDICITIS.

By J. Cameron Anderson, M. D.,

Professor of Surgery in the New York School of Clinical Medicine; Associate Attending Surgeon St. Francis Hospital; Attending Surgeon West Side German Dispensary; Professor of Surgery in New York School of Clinical Medicine, New York City.

[Written for the Medical Brief.]

It is not such a long time ago that the ovaries were removed for every little ache or pain in the pelvic region and it was quite common to remove them for dysmenorrhœa. This operation for removal of the tubes and ovaries was practiced to such an extent that a reaction set in, and now the last organ to be sacrificed in pelvic operations is the ovary.

The writer, after considerable thought and careful canvass and observation, is of the opinion that another operation is carried to an absurd extreme, viz., that of appendectomy. This operation in a normal subject is followed by a very low percentage of mortality, and, therefore, many physicians have become accustomed to operate for every little tenderness elicited by superficial or deep pressure over McBurney's point, without any corroborating symptoms whatever. In many cases the pain complained of in the lower right side has been due to fecal matter of more or less hard, irritating character, passing through that narrow elliptical opening known as the ileo-cæcal valve. The forcing of this matter, with gas, often causes the colicky pains that are diagnosed as appendicitis.

Diseases of the right ovary and fallopian tube are also confounded with appendicitis. The rupture of a tubal pregnancy, strangulation of Meckel's diverticulum, passing of renal stones and gallstones, must be differentiated; also the various forms of intestinal obstruction.

In those cases operated upon and no appendicular disease found, the surgeon excuses himself on the ground that the patient is better off without his appendix. He fails to add, however, the formation of post-operative adhesions, or weakened abdominal wall as the result of manipulations.

The writer does not wish to be understood as advocating not operating in bona fide cases of appendicitis, for no other abdominal condition carries so large a percentage of peritonitis in the most fatal form, but he does wish to protest strongly against scientific mutilation in order to enhance the reputation of the operator or acquire additional wealth.

On the other hand, many practitioners are guilty of a procrastination in appendicular cases until peritonitis is threatened or fully established, when they become alarmed and the case is sent to a hospital in order to shift the responsibility. I have no hesitation in saying that every case of genuine appendicitis should be operated upon at once, regardless of the hour, whether night or day. The writer has operated recently upon thirteen cases in succession during the night. These were all serious cases, three were gangrenous, five had perforated, and in the remaining five

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cases abscesses were found. Delay in any one of these cases until next day might have proved fatal.

In a surgical condition about which so much has been written in recent years, it seems as though there should be little excuse for a mistaken diagnosis. In view, however, of the many unnecessary operations which have been brought to the writer's notice, a repetition of a few of the leading symptoms may prove of interest to some reader.

In many cases the first pronounced symptom will be pain over McBurney's point, deeply seated, with a positively enlarged or tender appendix, rolling under the palpating fingers. Adhesions will give a resistance and frequently a tumor-like feel. The foregoing may be the only symptoms found, but a corroboration of the pulse will be necessary. The temperature may be slightly above normal, but this is not a reliable symptom. The pain may be in a remote part of the abdomen.

One of the most important symptoms co-existing with epigastric or umbilical pain is vomiting. This pain at the beginning is paroxysmal, later becoming constant, localizing in the right iliac fossa.

Temperature and pulse often rise, the latter being more important, as in the most serious cases the temperature may not rise above 101°.

These symptoms indicate surgical interference. On rectal or vaginal examination a tumor can be outlined that is not distinct on palpation of the abdomen.

53 E. Fifty-first Street.

PERNICIOUS INFLUENZA TREATMENT.

By H. I. Parker, M. D., Clayton, Ill.

[Written for the Medical Brief.]

J. C., delicate, yet rather full-blooded man of one hundred and thirty-eight pounds, took "bad cold," which continued to grow worse for four or five days, when I was called to see him.

Symptoms.—Pulse one hundred and thirty-five; temperature 104° F., severe headache, laborious breathing, anxious countenance, semi-delirious.

Treatment.—Bled the patient thirty-two ounces, with instant relief of more prominent symptoms. In sixteen hours pulse one hundred, all symptoms subsiding, uninterrupted recovery. No medicines to speak of, two visits, no consultations, no trained nurse, no funeral, no lying.

Comment.—This case was of that variety known as "runaway horse," and but for timely and sufficient venesection the surging circulation, like a running horse, would probably have soon broken through onto the lungs or brain with disastrous results.

Do not let the horse get away, but catch him on the first dash and use that greatest of horse tamers, the lancet, which has defied death itself for three thousand years, and under the intelligent use of which inflammation and conditions of autointoxication vanish like mist before the morning sun.

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HUMAN TRAGEDY.

By Albert S. Ashmead, M. D., New York.

[Written for the Medical Brief.]

Balzac, in his "La Comédie Humaine," has one of his characters say: "There are in modern society three men who can never think well of the world—the priest, the doctor and the man of law. And they wear black robes, perhaps because they are in mourning for every virtue and every illusion. The most hopeless of the three is the lawyer. When a man comes in search of the priest he is prompted by repentance, by remorse, by beliefs which make him interesting; which elevate him and comfort the soul of the intercessor whose task will bring him a sort of gladness; he purifies, repairs and reconciles. But we lawyers, we see the same evil feelings repeated again and again; nothing can correct them; our offices are sewers which can never be cleansed. How many things have I learned in the exercise of my profession? I have seen a father die in a garret, deserted by two daughters to whom he had given forty thousand francs a year. I have known wills burned. I have seen mothers robbing their children, wives killing their husbands and working on the love they could inspire to make men idiotic or mad, that they might live in peace with a lover. I have seen women teaching the child of their marriage such tastes as must bring it to the grave in order to benefit the child of an illicit affection. I could not tell you all I have seen, for I have seen crimes against which justice is impotent. In short, all the horrors that romancers suppose they have invented are still below the truth."

And the doctor? He sees best the human tragedy. If all the evil that is so freely known to us were depicted in literature, what a world of horror would there be exposed! I have seen a mother slowly poison to death by arsenic her eleven-year-old daughter in order that she might reap the benefit of an hundred and seventy dollars of cursed child-insurance. I have seen a husband who poured a fatal dose of carbolic acid down the helpless throat of his dying consumptive wife, mother of his three children, because he had grown tired of the trouble and expense of nursing her. This human beast had the decency, six weeks after, to hang himself to his garret rafter.

I have heard, while delivering an unmarried fifteen-year-old girl of a full-term child, a devil's whisper issue from the mouth of the girl's father, who leaned across my shoulder: "A hundred dollars more is yours if the child is born dead."

I have been asked by a boarding-house proprietress, when handing her for delivery to the public administrator the keys, watch and eighty-five dollars in money, which I had found on the person of an old man who had just died of apoplexy in the house: "Why find more than two dollars?"

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To such human minds, to poison, to kill, to rob a corpse, is not crime. Every doctor could recall incidents like these—yea, paint even worse pictures of human depravity. If there be one of my profession who, after years spent in its exercise, can still feel enthusiastic over his knowledge of human nature, I shall be glad to know it, for I have none; it has all departed. Humbug is the way nature presents herself to me. My view is well known. We should all, in our optimistic way, go slow, for the gods are gleeful, and grin behind the backs of men. My heart is today of human existence, heavy—every day, heavy. The deliberate deceit of the law of things is at last to me revealed. I live in the past and with the dead.

I am well acquainted with Balzac's writings. He seems to have been ever a keen observer of human nature, with a very considerable wealth of expressive power, leading others to see what they had not theretofore observed. Whether he drew deductions and advanced accurately to conclusions I hardly know. But we can do that for ourselves, from the material that is furnished to us by those who write books. Blessed be the printing press—the ark on the tossing wave of life. Thereto our weary spirits may return to rest from their wanderings, with none to molest or make them afraid.

All the writers, of whatever shade of thought, admit, in some way, the presence of evil in the very warp and woof of life. It is in the Lord's Prayer, where He asks the Father to "lead us not into temptation, but deliver us from evil." Human nature is very low. I despair of its eventual freedom of dross. The net of the fowler is spread for every winged spirit.

50 Cathedral Parkway.

WHY VARIABLE RESULTS ARE OBTAINED.

By Harold T. Houg, Milwaukee, Wis.
Medical Department Marquette University, Milwaukee Medical College.

[Written for the Medical Brief.]

Progress occasionally causes temporary confusion by disturbing old and firm beliefs, and furnishing vast legions of sometimes unconfirmed facts, but this little article is by no means written with intention of confusion, but to cause you to investigate and enlighten yourself on this important part of prescribing.

Physicians, in writing prescriptions for liquid medicines, are inconsiderate at the amount of variation in doses that can be brought through negligence and carelessness on part of both physician and pharmacist.

Following the usual custom, a pharmacist puts in ingredients in bottle and adds solvent sufficient to fill same, taking for granted that all bottles are uniform. But this is an erroneous idea, and measuring the various

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sizes of bottles will give you a clear idea of how they vary. I have found two-ounce bottles holding from fourteen to nineteen drachms, four-ounce from thirty-two to thirty-five drachms, six-ounce from forty-eight to fifty-three drachms, eight-ounce from sixty to sixty-eight drachms. Now this shows clearly how variable the capacity may be. Every pharmacist should mix his ingredients in a graduated measure, and then pour into bottle, and not this q. s. business. This would do away with this variation.

But a greater inconsistency of dosage is brought about by the use of tablespoons, teaspoons, and all domestic measures which are most absurdly variable in size, using these means of getting or attempting to get the same dose as the physician intended the patient to take. The great majority of practitioners figure their doses from the standard that eight drachms are equivalent to eight teaspoonfuls. I have, after measuring various teaspoons, found them to vary from five to seven to the ounce, about an average of six. It would be better to prescribe all active principles, if possible, in powder, pill or tablet form, or insist on patients carefully regulating their doses by means of graduated glasses, which are within the reach of all but the very poorest.

SOME EARLY SURGICAL EXPERIENCES IN THE COUNTRY.

By J. J. Conner, M. D. Pana, Ill.,

President of the Christian County Medical Society; Secretary of the Board of United States Examining Surgeons.

[Written for the Medical Brief.]

In the early part of June, 1878, I was summoned to proceed as quickly as I could to the residence of Mr. W. S. R., a prominent farmer, about sixty-three years old, living some two miles from my office, to attend him for injuries received in a runaway accident a few minutes before being called. On my way to the patient, I learned that Mr. R. had been driving a pair of fractious horses along the public highway, hitched to the running-gears of a wagon, and while crossing the track of the Wabash Railroad, the team became frightened and ran away. The wagon had no bed on it, and Mr. R. was sitting on the reach or coupling pole and the hind hounds of the wagon, and in endeavoring to manage his team he was thrown off the seat and dragged for some distance along the dusty road by the lines, which he still tenaciously held. At last he was dragged into the rut, where the wheel ran over him, lacerating the head, face and upper portion of the body. Blood flowed freely from the wounds in the head and face, and becoming mixed with the dust of the road, he soon was as black as a negro and unrecognizable. The worst injuries were found on the head and face, more particularly upon the left side of the head. The scalp and underlying tissues were in a pulp; the left ear had been severed from its place,

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supposedly by the edge of the wagon tire, as the wagon was a new one and the tire edges were unworn and sharp. The mangled ear was hanging by the side of the neck, simply by a small portion of the lower lobe: the auricle was split around its upper edge for nearly one-half its circumference, and there were two slits in it extending toward the external meatus for about three-fourths of an inch. The ear was not recognizable as such by its appearance; only by its attachment could one believe that it was the ear, for it was ground up so badly and also very dirty. I subjoin a rude diagram, which may help to explain the condition I found.

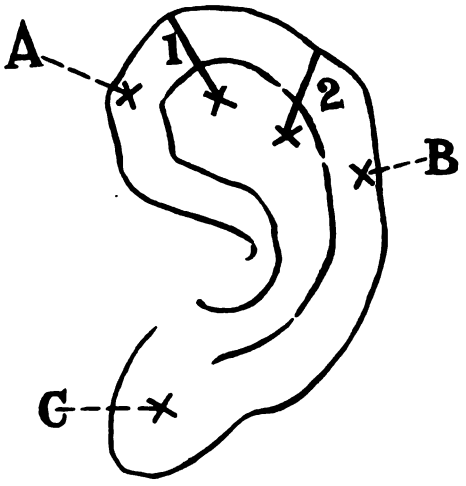

FIG. 1.

Fig. 1. The points *a* to *b* show extent of the split in the auricle, *c* is the point to where the ear was torn. 1 and 2 are the slits in the auricle.

It was thought impossible to save the ear, but the wife pleaded so hard that a trial be made to see if it could not be made to unite again with the scalp, that I concluded to do the best I could to save it, and, if it would not unite, it could later be entirely severed. All parts were thoroughly cleaned with hot water and castile soap (antiseptics were at that time hardly ever used, or barely known, in the country districts). The pieces of the ear were patched together as best we could and sewed in place to the scalp, the ear being well anchored to the scalp by means of surgeon's adhesive plaster. The patient was delirious and unconscious during the whole time that we were at work, and tried continually to remove the dressings and to interfere with our work. This condition kept up for seventeen days, during his infirmity, erysipelas in the meantime setting up. His head and face swelled to enormous size, nearly as big as a two-gallon milk bucket, the eyes, of course, being closed, as well as the nostrils, the mouth almost closing. The swelling was so great that we feared that the external meatus would be closed permanently

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when he recovered, if he *did* recover, and to prevent this we needed some sort of a tube to place in the meatus to keep it patulous. We had nothing of the sort, but we bethought ourselves of the barnyard, where we had noticed some geese, and went there and obtained a large-sized quill, which we thoroughly cleaned by means of hot water and scraping it inside and out. This we fitted into the meatus and secured it there by means of the dressings.

By the close and almost constant care of the wife, with what little aid some of the good neighbors gave her, Mr. R. got entirely well, and is alive now, a hale and vigorous old man. The suppuration, of which there was much, left the scalp adhering closely to the skull and allowed the ear to set about half an inch lower than its fellow. All of which goes to show that nature will do wonders in a healthy man's body, if properly aided in her efforts and given half a chance.

THE TREATMENT OF ERYSIPELAS.

By John Albert Burnett, Auburn, Ark.

[Written for the Medical Brief.]

There are many internal and external remedies used in the treatment of erysipelas. The most common internal remedy used is tincture of iron, and the most common local remedy is tincture of iodine. It is a well-known fact that tincture of iron is of value in the treatment of asthenic cases of erysipelas, but it must be used in liberal doses and frequently repeated in order to get the very best results. Jaborandi or pilocarpine is, no doubt. of more value than iron in sthenic cases, but must be pushed to the physiological effect; free diaphoresis once each day as long as the disease lasts.

The late Dr. Ben H. Brodnax, who is well known to all old Brief readers, used calomel and potassium nitrate for erysipelas, and claimed it would abort all his cases in twenty-four hours. He gave three ten-grain doses of calomel one hour apart, alternating with three twenty-grain doses of potassium nitrate, beginning with the calomel. The niter is given in water, each dose in about one ounce.

Dr. Brodnax's treatment has given good results for me, and I believe it is of real value, especially in sthenic cases. The local application of tincture of iodine is of value, and will, in my opinion, stop the disease from spreading in most cases, but I believe carbolic acid is superior to iodine as a local application. Take the liquid crystals of carbolic acid, and apply to the diseased parts until it turns white, then apply alcohol to neutralize. Strong solutions of silver nitrate will stop the disease, but is likely to cause sloughing, and do more harm than good.

In my opinion, the very best treatment we have for erysipelas is that recommended by Dr. Brodnax, or tincture of iron or pilocarpine, as indicated, internally, and tincture of iodine or carbolic acid locally.

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TIME OF DEATH—THE TIME WITHIN THE TWENTY-FOUR HOURS IN WHICH PATIENTS ARE LIKELY TO DIE.

By Linton D. Landrum, M. D., Columbus, Miss.

[Written for the Medical Brief.]

The law of heredity is very strong, and sometimes controls things that are ordinarily considered as beyond its sphere of action, so that physical agencies, in their effect on the life and health of individuals, are much controlled by this far-reaching law of heredity.

A man, apparently in the enjoyment of fine health, begins, about the age of forty, to manifest symptoms of heart disease. As the years pass by these indications of heart disease gradually grow more severe, until at the age of sixty he dies of valvular heart disease. This gentleman and his wife raised to manhood and womanhood a large family of sons and daughters, several of whom had heart disease of the same character as the father. The father of these children died in the morning whilst the family were at breakfast. The youngest son, who most resembled his father, died first of the children, with valvular heart disease, and died at about seven o'clock in the morning.

The next to die—she died with heart disease—was a daughter, who died about eight o'clock in the morning. The child who next died was the oldest son, who died of valvular heart disease about, or a very few minutes after, eleven o'clock in the morning.

The mother of these children, who outlived her husband many years, had no trace of heart disease, and the children who most resemble her in their physical organism are still living—and none of these have any heart disease that can be detected.

The next case I will cite is one where, in a family of several children, the father of these children died at the age of thirty-five with consumption, and died in the evening about first dark. His oldest child, a son, died at the age of twenty-seven of consumption, and died about one hour before the setting of the sun.

I observed another case where the father died of malarial fever. This man died about nine o'clock at night. His oldest child, a daughter, likewise died of malarial fever about nine o'clock at night, as did her father.

The hour of midnight is a crucial period in cases of severe sickness. At this hour the powers of life swing forward, and the pulse begins to manifest an increase in volume, so that at sunrise a man, whether sick or in health, is at his best, and stronger and more vigorous than at any other period during the twenty-four hours. The result of this is that if a patient has sufficient bodily vigor for the pulse to make this normal rise at midnight, he will not die for some hours later. But if between twelve and one at night there is no perceptible increase in the tone of the pulse, the patient will die before the rising of the morrow's sun.

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The law of heredity does not in any way contravene this law of the pulse; on the contrary, it accommodates itself to it.

Different periods of the day have different effects on different people. Thus you will find people who are peculiarly sensitive and susceptible to extraneous influences in the morning. As I once heard a deacon remark: That if he could keep from sinning up to ten o'clock in the morning he was safe from sinning the balance of the day. These are physical laws, and are peculiar to the individual, affecting each according to his nervous and structural organism, being part and parcel of his physical organization, attending him during life, and fixing the hour of his death.

This law of heredity at fixing the hour of death is most observable in organic disease, since these diseases have a law of their own, and override mere peculiarities of disposition which, in ordinary cases, might be controlling in their effect; that is to say, if a patient has hereditary organic heart disease, inherited from the paternal side, this disease will override and control any mere maternal impressions in determining the period of his death. But if this maternal impression is sufficiently strong to work an element of heredity in the organization of the son, it will have its effect in determining the length of the son's life, even though he inherit from his father fatal heart disease. Thus, I knew a man who died at fifty-three with heart disease. His wife was a healthy woman, with no trace of heart disease, whose mother lived to be over one hundred years old, and she herself lived to be between sixty and seventy. Their oldest son inherited from his father fatal valvular heart disease, but he outlived his father twenty years—dying at seventy-two years of age. Here the son inherited from his maternal grandmother much long-lived blood, which, acting on the heart disease, derived from his father, caused the son to outlive the father twenty years, though, like his father, he had fatal heart disease.

The case just cited *supra,* teaches another truth, and that is that persons may possess in their physical make-up characteristics which never manifest themselves, and even are not operative in their own lives, but manifest themselves and operate in the lives of their children. In the case just cited the son inherited his length of life, his long-life blood from his maternal grandmother, causing him to outlive his own mother two years and his father twenty years. It is a known fact that he inherited this long-life blood from his grandmother. This is positively known because the records are existing, showing when the other grandparent died, and they all, including his paternal grandfather and grandmother and his maternal grandfather, died under the age of fifty-five years; yet his own mother, with this long-life blood in her veins, died at sixty-two.

Why did not the long-life blood which flowed in the mother's veins manifest itself in lengthening out her life?

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So, then, we see that parents frequently possess qualities which lie dormant in their own lives, yet spring up and bear their legitimate fruit in the lives of their children.

I might cite further, in corroboration of what has been stated in this behalf, the case of a man whose timidity was well known. This man married into a quiet, timid, peace-loving family, but he had born to him a son who was as remarkable for his courage as his father for his cowardice. But the paternal grandfather of this boy was just such a man as his grandson, bold, courageous and self-reliant. He also resembles his grandfather in his personal appearance.

The elements which enter into the conditions which determine the period within the twenty-four hours within which a patient will die have been to some extent considered, and from this consideration we see that heredity plays no unimportant part, but is the leading factor.

ON THE NATURE, CAUSES AND TREATMENT OF STUTTERING, WITH A SUGGESTION AS TO ITS CONTROL IN PUBLIC SCHOOLS.

By A. E. Ibershoff, M. D., Cleveland, Ohio.

[Written for the Medical Brief.]

Recent statistics, gathered in the Cleveland public schools, go to show that in a total of five thousand school children, three hundred and sixty, or 0.7 per cent, are stutterers. This is but a cursory estimate, for if a more careful examination were to be instituted, it would be found that fully one per cent of all school children are afflicted with impediments of speech, bringing the total up to five hundred pupils. Such, in fact, was the condition disclosed by similar investigation of the schools of Boston, Berlin, and other large communities.

In view of the fact that the majority of these unfortunates are children of wage-earners and laborers, and, therefore, leave school at the age of thirteen or fourteen years, from seventy-five to one hundred pupils afflicted with speech defects enter life annually. Such individuals are handicapped, not only by their defect, but by reason of the fact that their schooling has been very materially embarrassed in consequence, and it can not be denied that many discontinue their education early on account of their affliction. Perhaps these facts will serve to justify a brief resumé of the subject of defective speech, its nature, causes and treatment, with the hope of emphasizing the importance of practical intervention.

In the interest of clearness it will be first necessary for us to distinguish between stuttering and stammering, for the two are, contrary to a prevailing notion, not synonymous. Stuttering is based upon an abnormal mental condition. It may be defined as a temporary inability to vocalize certain consonants or vowels, either singly or when joined into words. This ina-

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bility is due to either an excess or lack of force and results in hesitation or repetition of letters, syllables or words.

Stammering, on the other hand, is a defect of pronunciation, enunciation or articulation. The stammerer does not hesitate. He speaks fluently, but habitually substitutes an incorrect letter or sound for the correct one, such as the "th" sound for the "s," a defect popularly known as lisping. In a similar manner there may be a substitution of the letter "t" for the letter "k," as in "tind" for "kind;" the letter "p" for "f," in "toppee" for "coffee," or the letter "d" for "st," or "t," as in "duddering" for "stuttering." Stammering, unlike stuttering, is a continuous process, altogether independent of any defective cerebration, and is found most frequently in children while learning to talk. Yet stammerers are occasionally met among adults, a historic example being the Greek orator, Demosthenes, who, we are told, had difficulty in sounding the letter "r," a defect he attempted to overcome by placing pebbles on his tongue, and hurling invectives at the ocean waves.

With this distinction in mind, we may dismiss the subject of stammering as being of little importance, when compared to the much more frequent, severe and extensive form of speech defect—stuttering. This malady takes rise most frequently in the first period of speech development, and undoubtedly owes its origin, to some degree at least, to faulty methods. In accordance with this fact a leading authority recognizes the following three stages: The first stage, characterized by mistakes in speaking, and by repetitions which might be readily overcome, if promptly corrected by parents or teachers. In this stage, even under psychic excitement, embarrassment or fear, the patient is able to speak correctly when properly admonished, owing to the fact that he has not yet lost his muscular control. There are, indeed, adults whose condition has never progressed beyond this first stage, and who can, with proper attention, disguise their affliction.

When, however, faulty speech has continued uncorrected for a long period of time, the condition reaches the second stage, wherein the patient is no longer able to correct himself. He becomes fearful of certain sounds, which have previously appeared particularly difficult, and prefers to circumvent these, and to substitute others offering fewer difficulties.

From this stage to the third is but a brief step. The notion of speech-fear becomes a fixed, positive conviction. The patient is certain of his inability to vocalize the difficult sounds, or even at times to speak at all. This speech doubt, as may be expected, leads to a long train of emotional disturbances, mental depression, psychic irritations, conflictions and uncertainties, resulting in a weakening of the will power, and in unmistakable evidence of nervous exhaustion. Disharmony, lack of co-ordinate thought and loss of mental poise, are, therefore, characteristic of the last stage of this malady, and render the patient a helpless, diffident, floundering being.

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ETIOLOGY.

Statistical information points to hereditary predisposition as the primal underlying cause in the great majority of cases, while traumatisms, sudden violent emotions, and acute diseases of childhood frequently act as excitants or contributing etiological factors.

That abnormalities of the external organs of speech can *not* be looked upon as causes of stuttering, is the verdict of the best authorities. For the fact is, that, while malformation of the palate, teeth and cranial bones are found among stutterers, they are quite as prevalent among those unafflicted with speech defects, and in each case are significant only of degeneracy. Neither can we look to embarrassed breathing as a causative factor, for asthmatic patients are not necessarily stutterers, while, on the other hand, individuals of more than normal breathing capacity are frequently found among the ranks of speech defectives. Finally, such symptoms as spasm of the glottis, contractures of the tongue muscles and deficient will power, must be looked upon as sequelæ, rather than as causes of this condition. For lack of will power is by no means a constant quantity among stutterers; while, on the contrary, an excess of effort is frequently put forth by such unfortunates in their attempts to vocalize a difficult sound or word. We must appreciate that the function of speech involves two distinct processes, the one mental, the other physical—the one subjective, if you please, the other objective. The mental process of speaking is quite continuous, for we are in reality constantly holding converse with ourselves, or with others, yet in doing so may not utter a sound. This mental speech is, therefore, independent of the physical use of the organs of speech, while, on the other hand, physical utterance is always dependent upon cerebral activity, conscious or unconscious. If it is true, then, that stuttering is not due to defects of the external organs of speech, it must be a disorder in the mental process. There is no alternative, and a predisposition to such a disorder is, undoubtedly, transmitted by way of procreation.

Evidence bearing out this conclusion lies in the fact that over eighty-six per cent of stuttering cases can be traced to the earliest period of speech development, *i. e.*, previous to the beginning of school work, the remaining per cent developing their defect after their entry into the school. This fact would, *a priori*, have been expected, for mental speech is an active process before physical utterance has begun. The former is an inheritance, the latter purely an accession acquired by the aid of mimicry through the agency of other special functions, notably those of sight and hearing. That a correct mental word picture be created in the mind of the child is, therefore, the first requisite of normal speech-development. This process may be frustrated, or embarrassed in various ways, such as partial or complete deafness, due to absence, malformation, occlusion or disease of the external hearing organs, obstruction of sound conduction or perception, or

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weakness of the acoustic center. Any or all of these impediments will alter or prevent the formation of a correct word-picture in the mind of the child.

Yet in the absence of these deterring influences, and with a correct conception of sounds, letters and words, the individual may be prevented from correctly imitating the same by reason of a blocking of nerve impulses in their passage from the acoustic to the co-ordination center. The individual will be unable to distinguish clearly between the separate sounds, resulting in a confusion of sound images which constitute, when reproduced or vocalized, a stuttered speech. This fact should serve to emphasize the importance of guarding against too rapid speech in the early training of the child.

Finally, the most important requisite to normal speech is that of co-ordination between the two processes of mentality and vocalization. For if, as has been stated, articulate speech comprises an harmonious co-operation of these two, any disproportion in rate must result disastrously. The thinking process is normally the more rapid of the two, and must, therefore, be held in check to keep pace with vocalization in order that harmonious co-ordinate speech be maintained. Evidence of disharmony of these two functions is, occasionally, found among adults who "think faster than they speak," with the result that they begin a new sentence before completing the previous one. Such individuals are, in a sense, stutterers—"sentence stutterers," if you please, the reason they are free from word stuttering being due either to the fact that their speech was developed before the habit of inco-ordination was formed, or owing to the fact that they are unconscious of this disharmony. For it is the consciousness of the lack of concord between thought and utterance, with its attendant distrust, uncertainty, diffidence, hesitation, and fear that produces stuttering. All stutterers speak quite fluently so long as they do not think of their affliction.

SYMPTOMS.

As has been stated, stuttering is a temporary condition. Speech difficulties affect all manner of sounds, especially the consonants, either singly or in a combination at any point in a sentence and under all conditions of time, place and environment. The unfortunate makes hard work of what seems to others an easy task, for he assists his speech with an increase of physical force, resulting in wild gesticulations, paroxysms, convulsions, stamping of feet, clapping of the hands, and a general frenzied demeanor.

By nature, the stutterer is capricious and whimsical. He makes every effort to forget his affliction, and to direct his attention to some other channel by doing certain things or carrying certain objects. These efforts may be, to a degree, successful, but the result is only temporary, for, in accordance with the law of association of ideas, his trouble returns in the midst

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of fluent speaking, owing to the presence of some word or letter which at one time offered great difficulties. Temperamental idiosyncracies, such as extreme sensitiveness and solicitude, serve to increase the patient's speech fear. Harshness and threats on the part of stern parents or teachers, and, especially, any evidences of levity or derision on the part of school- or play-mates, will serve to augment the victim's embarrassment.

TREATMENT.

Many and varied are the methods employed in the treatment of stutterers. There seems to be a wide diversity of opinion as to the efficacy of these methods, but I feel safe in saying that they are usually in inverse ratio to the claim of the promulgators. Every quack institution claims the open sesame to this realm of mysteries, and is prolific of voluminous literature, couched in the most prolix phraseology, the object of which is, in every case, self-exploitation and aggrandizement, and the hoodwinking of a credulous and gullible public.

There are, nevertheless, certain basic principles to which most recognized authorities subscribe. These are:

1. Instruction in articulation and vocalization.
2. Instruction in rhythmic speech.
3. Regulation of the breathing.
4. Regulation of the patient's voice.

Instruction in articulation and vocalization consists of exercises intended to show the patient the correct lip and mouth position necessary to produce the sounds, letters and words which offer the greatest difficulty.

Next comes instruction in rhythm of speech. Stutterers, as a rule, have no appreciation of the time element of expression. To restore order out of chaos is one of the first duties of the instructor. Rhythmic expression depends upon rhythmic thought and rhythmic breathing. Hence the patient is taught to recognize the time value necessary to correct speech, i. e., the time required for expressing and obliterating a thought conceived before attempting to express the next. The regulation of the patient's breathing is of great value in this connection. Deep breathing has its value as a form of hygienic exercise, but is of no avail in the treatment of stutterers. What the patient requires is instruction in normal, natural breathing during vocalization, with a view to overcoming the habit common among stutterers of beginning speech with either too large or too small a supply of air in their lungs. They must also learn to suit the length of clauses or sentences to the amount of air at their disposal, and to guard against a continuance of speech beyond the limits of a normal expiration.

Finally, attention must be given to the voice. Most stutterers have no appreciation of what constitutes normal voice, and many, in fact, habitually

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assume a forced, unnatural voice, with the hope of diverting their attention from their defect. They must, therefore, be trained to recognize the normal voice, and to compare the same with their own faulty tones. They must be drilled in the production of chest tones, and to substitute these for the head tones, which, being a deviation from the normal, tend to check the freedom of speech.

It is hardly necessary to add that these exercises must be carried out persistently, constantly and insistently. For this reason, and the fact that all deterring influences must be avoided, and the patient be brought into close communion with his teacher, it is of the utmost importance that the treatment be carried out in an institution equipped for this purpose, and under the guidance of the best possible instructors. This is especially true of patients in the third stage, in which speech-fear is the dominant factor. Even patients in the second stage should have the benefit of such instruction, their required detention being obviously of shorter duration, and the chances for permanent cure comparatively better.

Treatment in the school and home, through the agency of teachers and parents, is also an important factor, and is frequently quite sufficient to abort a case in its incipiency. To make this a practical regimé, the parents of every child giving evidence of faulty speech, and every teacher having in her charge such a pupil, should be provided with the following simple instructions:

1. Everything which deranges or weakens the patient, and everything which unduly excites him, either mentally or physically, should be avoided. This includes, especially, the playing of baseball and football.

2. The patient should never be permitted to talk too rapidly or when out of breath.

3. When the patient finds it difficult to pronounce a word, he should never be permitted to repeat that word, but always the entire sentence.

4. No association with other stutterers should be permitted.

5. The patient should never be punished for his defect, or mimicked, or questioned for the purpose of compelling him to use a difficult word for the amusement of others.

6. A confirmed stutterer should be taken from school at once, and placed in a suitable institution, to receive instruction in correct speech, even at the cost of a few weeks of schooling.

CONCLUSION.

Stuttering must, sooner or later, be looked upon as a factor in modern economics. This fact has long been recognized abroad, with the result that the treatment of stutterers comprises a part of the public educational system. In Germany and Austria, capable instructors are appointed, whose

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duty it is to conduct special classes in the different schools at stated intervals, for the instruction of pupils afflicted with speech defects. The results obtained point inevitably to these conclusions:

1. The positive efficiency of this method in controlling stuttering in its first stage, and

2. The absolute inefficiency of the same to effect any permanent results in the second and third stages, and the consequent imperative necessity of placing such cases in proper institutions for prolonged treatment. School treatment must, therefore, be looked upon as being essentially inhibitive, seventy-five per cent of incipient cases being reported cured. Granting that this per cent is comparatively small, when we consider the total number of cases encountered, it is, nevertheless, of far-reaching importance in the control of this malady, and its continuance bespeaks its value as an economic factor to the State. We must plead guilty to the grossest inconsistency when we establish special classes in our schools for so-called backward children, and absolutely neglect to make any provision for those whose affliction is of minor degree, and yet of such momentous importance. "That a cure in almost every case can be attained by the application of the physiological rules of normal speech, is beyond question. and although the effort necessary for its eradication, in certain cases, may vary according to the age and tractability of the sufferers, modern science can boast of victory, even in the severest cases."

822-4 Rose Bldg.

A GOOD APERIENT.

According to the *Revista di Chimica et Farmacia,* a good aperient should combine three virtues: The normal physiological stimulants, that is, some stimulating food; the artificial physiological stimulants, the alkaline salts, and the medicinal stimulants, the bitters. The following two formulas take all these qualities into account, and consequently yield a well-balanced, active but gentle aperient:

1. Peptone dried ..... 75 grains.
   Sodium bicarbonate ..... 15 grains.

Mix and divide into twelve powders.

2. Tincture of nux vomica..... 45 grains.
   Extract of gentian ..... 45 grains.
   Extract of cascarilla ..... 45 grains.
   Syrup of bitter orange peel.....150 grains.
   Peppermint water ..... 4 fld. ounces.

Twenty minutes before meal time, one of the powders is dissolved in a cup of warm water, and taken. This is followed by a teaspoonful of the potion.

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NORMAL FIXATION OF THE UTERUS.

By Byron Robinson, B. S., M. D., Chicago.

[Written for the Medical Brief.]

(Continued from March issue.)

(E) LIGAMENTA SACRO-UTERINA.

The sacro-uterine ligaments possess the eponym, "plicæ Douglasi," or folds of Douglass, the Scotch anatomist and obstetrician (James Douglass, anatomist and obstetrician, Professor in London, 1675-1741). They extend from the cervix uteri to the sacrum (and rectum). They are variable structures, and difficult to define in dissection. They are composed of limited quantity of muscle and considerable quantity of connective tissue. Besides the name of Douglass, there is associated the name of Professor Luschka (Hubert Luschka, German anatomist, 1820-1875, professor in Tuebingen). As attached, the "muscles of Luschka" are contained in the utero-sacral ligaments. The names of Duges, Madam and Boivrn are also associated with these ligaments. The sacro-uterine ligaments may be valuable in dimension (diameter, length, position), in origin and insertion, in quantity of contained muscular fiber, and a symmetry may exist. The origin is fan-formed from the sacrum (and rectum), and the fibers converge, becoming inserted in the cervix. In palpating the sacro-uterine ligaments, which I have performed for many years, especially during vaginal hysterectomy, I find extreme variation in dimension (length, diameter), position, symmetry and distensibility. Some writers attribute a remarkable signification to the sacro-uterine ligaments as powerful supports of the uterus. I think these authors are led into the error of thinking that on drawing the uterus distalward the resistance is demonstrable by the tensionized sacro-uterine ligaments, while, in fact, the "supporting beam of the cervix," or base of the ligamentum latum, accounts for considerable of this resistance. For fifty years celebrated names have designated the sacro-uterine ligaments as "principal uterine supports," "veritable suspensory organs of the uterus," as "ligamenta suspensoria uteri portiæ." One can say that the sacro-uterine ligaments are tethers which fix the limits of uterine mobility. The sacro-uterine ligaments do not exercise marked suspensory influence over the uterus. It is purely a matter of experiment that in dislocating the uterus proximalward and distalward the sacro-uterine ligaments are placed on tension—but experiments in this matter are exactly similar to pathology. The sacro-uterine ligaments can not serve as a strict suspensory or fixation agent, where they are only put on tension by the most extensive uterine excursion. It seems to me that the sacro-uterine ligaments are neither important suspensory nor fixation agents of the uterus, but are among the numerous threads that suspend and fix the uterus to adjacent organs and walls.

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(F) VESSELS AND NERVES.

It is not the natural function of the vessels to act as suspending or fixing agents for organs. Also the vasa uterina are tortuous, and could be a suspension or fixation apparatus only on tension, which would elongate the vessels. It traumatizes a nerve to suspend or fix an organ. Hence vessels and nerves possess no agency of a suspensory or fixation nature for the uterus.

(G) THE CONNECTIVE TISSUE.

Under connective tissue we comprehend the loose tissue that intervenes between organs and courses along vessels and nerves. There can be no doubt that the connective tissue surrounding organs, nerves and vessels possess some suspensory power. However, connective tissue possesses neither elasticity nor fixation to withstand resistance. Loose connective tissue, under normal relations, produces practically no fixation apparatus. Pathologically connective tissue may furnish a source of strong resisting power, *e. g.*, in the atrophic state. Loose connective tissue is vastly different than the multiple cleavable planes of powerful fascia which, in my opinion, is a maximum supporting apparatus for many viscera.

(H) THE CONNECTION OF THE UTERUS WITH NEIGHBORING ORGANS.

The uterus is connected with the vagina, bladder, rectum, as neighboring organs. The vagina is the most intimately connected neighboring organ. The relation of the vagina to the cervix is first a support; second, it limits the dorsal excursions of the uterus; third, the vagina, with the sacro-uterine ligaments, serves as a dorso-ventral resting beam for the cervix. I have called the base of the ligamenta lata a transverse resting beam for the cervix. Hence, the cervix rests on the center of a cross, of which the transverse beam is the base of the ligamenta lata, and the dorso-ventral beam is the vagina and the sacro-uterine ligaments. The state of the vagina—resting nullipara, or multipara, menstrual, gestating or puerperal—indicates the strength of its support. The vagina acts as a muscular column extending from the cervix to the triangular ligament, aiding to steady the cervix. However, I can not view the vagina as the special supporter of the uterus, though doubtless the fixation of the vagina to the cervix—subpubic arch and triangular ligament aids to fix the cervix more or less. The vagina can act as a column of uterine support, because it is thoroughly fixed to adjacent tissue and organs. It is intimately supported adjacently by the urethra, bladder, rectum, pubic bones and perineum, as well as with the powerful triangular ligament. Besides, the forces which retain the vagina in position also aid in retaining the uterus. Though the connection between the vagina and urethra be extremely intimate, that between the cervix and bladder is loose, unsuitable tissue,

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easily separated. A direct connection of the uterus and rectum through connective tissue, does not exist, as Douglass' pouch extends distalward to the cervix.

A SUMMATION OF VIEWS AS TO UTERINE SUSPENSION.

Every structure which is connective with the uterus and pelvic wall and adjacent organs, is so far a fixation or suspension apparatus of the uterus. No single suspension agent of the uterus overshadows all others. All suspension agents possess elasticity and fixity, but every one is more or less distensible and yielding. The peritoneum is extensively distensible, as may be observed in hernia, ascites, tympany. Involuntary muscles, extend (distend), *e. g.*, observe gastric distention or dilatation. Ligaments distend, *e. g.*, in gestation; splanchnoptosia, joints. However, each uterine suspending agent possesses a certain amount of power and the combined forces of the suspending uterine agents are able to maintain the normal uterus in normal position—which is that of free mobility. All fixation or suspensory agents of the uterus are primarily for physiologic purposes, and secondarily for fixation agents. During evolutionary processes (erect attitude), the architecture of the suspensory agents of the uterus become adapted to the position of the uterus, so that the uterine suspensory agents are not a cause of uterine position, but a result. The suspensory apparatus of the uterus consists of multiple threads extending from it to the adjacent organs or abdominal wall. In the excellent work of Tandler and Halban they compare the suspensory apparatus of the uterus to the support given to a top by its surrounding netting.

II SUPPORTING APPARATUS OF THE UTERUS.

The structure on which the uterus lies is known as the pelvic floor, the principal constituents of which are fasciæ, bone, muscles, adiposa, skin. The fat and skin are so insignificant that they practically are omitted. The pelvic floor may be viewed as a part and parcel of the abdominal wall. The pelvic cavity should be viewed as other cavities, *e. g.*, chest, abdomen, which contain changing volumes and enclosed by osseous and muscular walls. From the erect attitude man's osseous and muscular pelvic walls have a maximum development—to support the superincumbent body; to support the pelvic organs, and to close the pelvic exit. The genitals are not mechanically suspended by mesenteries which serve for physiologic purposes—as conducting vessels (lymph and blood), nerves, and preventing visceral entanglement and torsion—but rest on the intact pelvic floor as a base. The pelvic floor, as a basal support for the uterus, is complicated in the rectal, vaginal and urethral apertures. On account of the apertures of the pelvic floor its closure may be considered in two different views, viz.: (*a*), the *mechanical arrangement of the pelvic floor closure.*

(*b*), *Its physiologic function by which its closure is secured.*

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THE SUBJECT OF THE MECHANICAL ARRANGEMENT AND CLOSURE OF THE PELVIC FLOOR.

The mechanical arrangement of the pelvic floor closure may be considered under the following factors:

1. *Diaphragma peritonei.*—There can be no doubt that the peritoneum contains visceral relations in ordered plans—organs, vessels, nerves—preventing visceral entanglement and torsion. There can be no doubt that the combined power of the peritoneum—its multiple fixation threads extending from the uterus to viscera and abdominal wall—aids mechanically to close the pelvic floor. There can be no doubt that the peritoneal diaphragm, by its numerous attachments to viscera, by its maintaining in compact relations numerous viscera, and by its extensive, though loose, attachment to the abdominal and pelvic wall is an agent of suspension and support to the uterus.

2. *Diaphragma pelvis rectale.*—The diaphragma pelvis rectale consists of a group of muscles—the rectal group, which includes the *levator ani*, coccygeus, pyriformis and sphincter ani. The rectal pelvic diaphragm is dominated through the levator ani, through the rectal diaphragm, the rectum passes constituting the *hiatus rectalis*, which might be termed the sphincter rectalis. The rectal diaphragm mechanically closes the pelvic exit dorsally—as the dorsal valve.

3. *Diaphragma urogenitale.*—The urogenital diaphragm consists of the triangular tendinous plate located in the subpubic arch. It mechanically closes the pelvic exit ventrally—as a valve. Through the urogenital diaphragm may be observed the *hiatus genitalis*, which may be termed the sphincter urogenitalis. The urogenital diaphragm is penetrated adjacent to its dorsal border by the vaginal tube, *i. e.*, the major portion of the genital diaphragm is located ventral to the vagina (between the pubic arch and the vagina), and the minor portion of the genital diaphragm is located dorsal to the vagina (*i. e.*, between the vagina and rectum). In other words, the vaginal tube is firmly grasped by the aperture in the urogenital tendineous plate. The dense urogenital triangular plate is especially liable to trauma during parturition. The integrity of the hiatus urogenitalis is jeopardized by distention or laceration, and it is in the delicate repair that lies success. The resulting laceration in the urogenital diaphragm, due to parturition, ends in a dilatation or rupture of the hiatus genitalis, with consequent defect of mechanical pelvic exit closure. The marked damage due to parturition, in the urogenital diaphragm is located at its dorsal border, hence the defect is observed in the dorsal vaginal wall. Viewing the pelvic exit, we note that it is mechanically closed by—

1. *Peritoneal diaphragm*, composed of connective and elastic tissue.

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2. By the *rectal diaphragm*, composed chiefly of the levator ani muscle unsheathed by its levator ani fascia, proximal and distal—a muscular apparatus. The diaphragm closes mechanically the dorsal exit of the pelvis. Through it passes the hiatus rectalis.

3. The *genital diaphragm*, composed of the triangular ligament, a tendineous plate, mechanically closes the ventral pelvic exit. The genital aperture is the genital diaphragm—may be termed the hiatus genitalis.

BRIEF REMARKS ON THE PHYSIOLOGY OF THE PELVIC FLOOR.

Physiology is the base of medical practice, and *pathologic physiology* practically limits a physician's duty. The function of individual muscles in relation to the status of pelvic organs, especially the uterus, is of vital signification; we will here make some brief remarks on the function of the levator ani:

(*a*) The contractions of the levator ani narrow the rectum and vagina.

(*b*) Its contraction forces the rectum and vagina toward the subpubic arch.

(*c*) It relaxes during defecation, and retracts the anus over the fecal column.

The pelvic floor (diaphragma—peritonei, rectalis and urogenitalis) functionate synchronous and synergetic with the remaining abdominal muscles, as may be noted in sneezing, coughing, vomiting.

In opposition to intra-abdominal pressure it possesses anatomically and physiologically the power to close the pelvic exit. In order to present the wide variation of opinion among physicians as to the valuation of the levator ani muscle, the following views may be inserted: Fritsch says that the levator ani neither supports nor suspends the uterus, while Farabeuf, Rieffel, Testut, Walcher, Varnier, and Budin attribute significant support to the uterus from the levator ani. There can be no doubt that the volume of the uterus, increased by the lateral ligaments and nerves and vessels are a powerful factor in preventing it from passing distalward through the levator ani slit. The levator ani supports the rectum, the uterus and a major part of the vagina and the bladder, as well as the corpus uteri and ventral vaginal wall. The pelvic floor supports the pelvic organs in times of danger, sneezing, coughing, or by contraction and narrowing the pelvic exit, *i. e.*, in limiting the hiatus genitalis.

III INTRA-ABDOMINAL PRESSURE IS A FIXATION APPARATUS.

Intraäbdominal pressure accentuates the normal position of organs. Excessive intraäbdominal pressure has a tendency to dislocate organs, *e. g.*, fixing the diaphragm forces the uterus distalward.

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THE TREATMENT OF CHRONIC NASAL CATARRH IN EVERYDAY PRACTICE.

By H. Tyldesley, M. D., Central City, Ky.
Surgeon I. C. R. R.; Member Kentucky State Medical Association; Member American Medical Association; Member Muhlenburg County Medical Society, Etc.

[Written for the Medical Brief.]

For a number of years I have noticed an inclination on the part of physicians, in general practice, to shift their patients suffering with nasal catarrh to the specialist. That this is often proper there can be no doubt. Such cases, however, are those presenting complications which render the case essentially one where an experienced specialist is needed. An extended study of chronic nasal catarrh has convinced me that the greatest majority of them can be treated as successfully by the general practitioner as by the specialist.

There are three forms of chronic nasal catarrh. These are (*a*) *simple chronic catarrh,* which is simply a chronic inflammation of the pituitary membrane, and is not associated with structural changes. There is generally a free discharge of muco-pus, and often associated pharyngitis.

(*b*). The *hypertrophic* form is a continuation of simple chronic nasal catarrh. Here we find the mucous membrane and the underlying erectile tissue hypertrophied, Very often, also, there is enlargement of the adenoid structures in adjacent parts. There is generally more or less difficulty in breathing, and secretion of a large quantity of thick and very tenacious mucus. Often the obstruction is so great that nasal passages are, to a large extent, occluded.

(*c.*) The *atrophic* form is still a continuation of the process, or, I had better have said, it is a sequence of chronic hypertrophic catarrh. It is a result of hypertrophy of the normal fibrous tissue of the mucous membrane. The fibrous tissue, as it were, crowds out the mucous membrane. There is a scanty, highly offensive discharge of muco-pus, which becomes more copious as the disease advances. The sense of smell soon becomes abolished, and the general health of the patient becomes lowered.

The treatment of chronic nasal catarrh• comprehends attention to hygienic laws, the administration of such drugs as are required to counteract associated diseases or dyscrasias, and those remedial agents directed to the correction of the catarrhal process *per se.*

It may be postulated, that one who constantly subjects himself to such causative influences as will produce a coryza, will never recover from any type of chronic nasal catarrh. I am always particular, therefore, to warn my patients at the incipiency of attacks that insufficient protection against the inclemency of weather will increase the severity of their disease. I caution them particularly against wearing slippers and low-cut shoes in the early spring, fall or winter. It is surprising how many men and women

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do this, and I am sure no recovery from catarrh can be made when the feet are thus exposed. Allowing the feet to become wet, and going about with wet feet, or wearing shoes that are not sufficiently thick to protect the feet against cold, are fruitful causes of all the woes that attend the unfolding of catarrh. Again, failure to protect the body against cold will often lead to the development of catarrh, or if the disease is already present, this will be sufficient to insure its progress to chronicity. Other influences are potent, but these are the ones which are responsible to the greatest extent.

The patient suffering with chronic nasal catarrh should be thoroughly examined, and every effort made to ascertain the existence of any associated disease or dyscrasia. When such complication is found, we must endeavor to make our treatment comprehend it. If we find our patient anemic, rheumatic, or syphilitic, we must add to the treatment necessary to the correction of the catarrhal process that which is demanded for the correction of the complication or dyscrasia. We often find these patients suffering with lowered vitality—in such cases cod-liver oil and a nutritious diet, coupled with correct hygienic observation, is necessary.

In the treatment of chronic nasal catarrh *per se,* the indications comprehend local measures, sprays and snuffs, and such internal treatment as experience has shown to be efficient in correcting or terminating catarrhal processes.

It is necessary, in order to overcome odor, to cleanse the nasal mucous membrane with an antiseptic. This is best accomplished with a catarrh snuff, or a spray, produced by an atomizer, that is antiseptic, unirritating and cleansing. In some mild cases I employ a snuff. This is convenient, and can be carried about by the patient. A favorite catarrh snuff with me is composed of equal parts of powdered borax and finely-powdered chloride of sodium. This can be readily drawn into the nasal chamber by the patient, and is followed by much relief, in that the mucous and muco-pus accumulations are expelled, and the patient can breathe more freely. I very often use a spray. This is composed of sodium chloride, five grains, and borax, seven grains, added to an ounce of distilled water. This is sprayed well into the nasal chambers and against the pharynx, if this is involved, every four hours.

This comprises a local treatment that has been found very satisfactory. It is also useful in the atrophic type of nasal catarrh, where there is generally a very offensive discharge, and occlusion by muco-pus. It overcomes the offensive odor, if used regularly, and this is highly pleasing to patients, as often the odor that emanates from a patient suffering with chronic atrophic catarrh is so great that they often shrink from associating with any one on this account.

The internal treatment which has brought me the greatest benefit, and has many times proved successful in the simple chronic nasal catarrh and

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chronic hypertrophic nasal catarrh, consists in the administration of balsam copaiba in doses of fifteen minims every three hours. I sometimes give this in capsules, but generally I exhibit it in emulsion. This is readily made, and can be made pleasant to the taste. I have the patient persist in this treatment for as long a period as is necessary. Often six weeks will see a complete relief and termination, but in others I have found it necessary to have the patient persist in the employment of the drug four months. Of course, the tractibility of the patient, his resisting powers, and the presence or absence of complications, and status of the morbid process when treatment is begun, will, to a large extent, determine the duration of the disease under treatment.

In the treatment of chronic atrophic catarrh our resources are such as to render a cure of the process a practical impossibility. Such cases call for such internal remedies as will tend to support the resisting powers. The antiseptic spray already spoken of will greatly aid us, in that it will relieve difficult breathing and allay the offensive breath, which often drives the patients to seclusion. It is best that these patients, when possible, should reside in a climate where there never come low temperature readings, and where humidity is seldom encountered. In conclusion, I must say that cases attended with occlusion due to exostosis, and cases presenting other complications that render them unusual can be referred most properly to the specialist. Cases not presenting complications such as referred to, can easily be treated by the family physician with great success.

A REMONSTRANCE.

By C. F. Nichols, M. D., Boston, Mass.

To the Editor of The Medical Brief:

In The Medical Brief for November, Dr. J. A. Houser writes, page 869: "It is said that Wendell Phillips' wife sought him in marriage that she might have the glory of bearing a child for the chief champion of human liberty; but she learned later that she had wedded a great soul, who had transmuted his animal life into the beatific glory of the mind, and had none left to transmit to another."

Dr. Houser's general subject, "Race Suicide," is so important, and his paper so interesting, that the above assumedly illustrative statement instantly offers to the reader a striking picture of a relation somewhat dissatisfied, or possibly strained, between those happy and absolutely satisfied souls.

I am aware that such gossip and guesses were called out in the community by Mrs. Phillips' admiration for her husband, with his limitless

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response; yet no hypothesis could have had foundation more unfounded and absurd.

The writer, a connection by marriage, and Mrs. Phillips' sole medical attendant for several years, consultant with Dr. Thayer in Mr. Phillips' ailments, which terminated in his death by angina, was close to their life, physical and psychic. I know that, while there was love of children so strong that it led to child-adoption, there was neither ambition nor conscious plan on part of maid or wife to contract or pursue marriage with the especial object of child-bearing. "He wedded an invalid, and because of his wife's ill-health Mr. Phillips was, from the start, the tender nurse." Through claimed heredity, a brother of Mr. Phillips remained bedridden thirty years with locomotor ataxia.

The whole initiative and prolonged fellowship of their union was their mutual devotion to the Abolition Cause. Unconsciously to each, on that day of the "Garrison Mob," October 21, 1835, Ann Terry Green and the "stripling lawyer" showed simultaneous interest in that movement; Miss Green, as a member of a club of ladies in sympathy with Mr. Garrison's effort, passing below Mr. Phillips' office window, from which he saw the mob.

That Ann Phillips was absolutely unselfish, despite constant dependence on her husband's personal devotion, was evidenced repeatedly when, from the little chamber with its window-pane broken by an earlier mob, she drove him, again and again, from her sick bed to face unquestionable danger of injury or death.

Cultured, original and productive in thought, Mrs. Phillips was in much her husband's coequal. "My wife has always preceded me in the adoption of the causes I have advocated."

When silver-haired, as "silver-tongued," Mr. Phillips sprang upon a passing horse car, to gain the extra moment of transit, a block from Boylston street to Common street, he was always hastening to a companionship into which there entered no disappointment, nor the "shadow of turning."

"PARC MONCEAU OF THE UNIVERSITY" is the title given by M. Liard, Vice-Rector of the University of Paris, to his new scheme for a Palace of Science, officially known as "The New Sorbonne." The land available, some twenty-three thousand square yards, is bounded by the rues Gay-Lussac, St. Jacques, and Ulm (in this latter street stands Pasteur's first laboratory). A chemical institute, the Oceanographic Institute founded by the liberality of the Prince of Monaco, radiographic and archæological services, etc., will form a vast square, in the center of which will be a handsome garden. The cost, £200,000, will be covered by subscriptions from the State, the city, and the "Friends of the University" Society.—[*The Chemist and Druggist,* London, March, 1908.]

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CORRESPONDENCE.

ERIE, PA., March 4, 1908.

Editor MEDICAL BRIEF:

Passed Assistant Surgeon H. S. Mathewson, in his report for January 31, 1908, as represented in THE BRIEF for March, says:

> France and the United States are at present using a "strain" developed from a case of cow-pox occurring in Beaugency, France, in 1871.
>
> There is also in use with us a "strain" derived from a case of cow-pox occurring in Cohasset, Mass., in 1881. These strains are maintained by transferrence from calf to calf.

Professor James McFarland, Department of Pathology, Medico-Chirurgical College, Philadelphia, Pa., in the issue for October, 1906, of the *Monthly Cyclopædia of Practical Medicine*, says:

> The relation of vaccinia to small-pox seems entirely clear. Vaccination is variola of the cow. The virus, virulent in man, is attenuated in the cow.

Which is it? I hope your readers will elucidate.

Yours truly,

J. W. SEIP, M. D.

UNITED STATES PUBLIC HEALTH AND MARINE-HOSPITAL SERVICE,
OFFICE OF MEDICAL OFFICER IN COMMAND.

PORT OF CLEVELAND, OHIO, March 11, 1908.

The Editor THE MEDICAL BRIEF, *St. Louis, Mo.:*

SIR—Your letter of the 6th instant received, transmitting copy of Dr. Seip's inquiry as to the identity of cow-pox and small-pox. In reply, I would state that the identity of these diseases is, I believe, quite generally admitted, the proof for the belief being based on the experimental production of cow-pox in the cow by inoculation with material taken from the pustules of small-pox in man. The "strains" of vaccine now in use, however, as far as I know, have been derived from cow-pox occurring naturally, and not artificially produced.

Respectfully,

H. S. MATHEWSON.

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CURRENT MEDICAL LITERATURE.

Metaplasia of Bladder Epithelia.

Renichuro Ikeda (*Zeitschrift fuer Urologie,* Bd. I, 5 Heft, 1907) points out that metaplasia of the bladder epithelial cells is met with in chronic cystitis, and can readily be seen in all primary and secondary chronic cases. The writer made out the presence of glycogen in his microscopic studies, an incident not hitherto noted by other observers.

Kidney Operations on Patients with but One Kidney.

Nicolich (*Zeitschrift fuer Urologie,* Bd. 1, 5 Heft, 1907) reported four cases in which one kidney was diseased, where the other had either previously been extirpated or had become functionless through disease. These cases were reported to lay emphasis upon the need of determination of the condition of the "other" kidney when operating upon a diseased kidney.

The Pretuberculous.

Bernheim and Dieupart (*Zeitschrift fuer Tuberkul.* Bd. 11, Heft 5) point out a condition which they call "pretuberculous," *i. e.,* a state of health where there is a predisposition to the infection of tuberculosis through alcoholic indulgence, syphilis, reconvalescence, anæmia, etc., but where infection with tuberculosis has not yet taken place. It is important to recognize this condition in individuals, in order that they may be made resistant to the tubercular infection by appropriate measures directed to raising their health to the normal.

Rigor Mortis in the Stillborn.

C. H. Watts Parkinson (*British Medical Journal,* February 8, 1908) calls attention to the scantiness of the literature on the question of the presence of rigor mortis in new-born children, as indicative of the child having breathed, *i. e.,* that it was legally alive. He mentions a few cases in his thirty-five years' experience as an English coroner, and makes these concluding statements:

1. Rigor mortis may set in, under certain conditions, before labor, and may pass off while the child is still *in utero,* and, possibly, may delay the birth in these cases until it passes away.

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2. Rigor mortis may set in when the child dies during labor, and may either be complete before or may go on to completeness after birth, and in these cases increases the difficulties of expulsion.

3. A child may die during labor and be expelled before rigor mortis can set in, but rigor mortis may supervene after birth, more or less completely.

4. The attitude produced by rigor mortis in stillborn children differs from that produced by cadaveric rigidity under ordinary circumstances, and by its character enables an opinion to be given that the child had no separate existence, for in every such case the limbs and body become drawn into the position in which it normally lies in the woman's womb.

His two points, therefore, are first, that rigor mortis is not a sign of live birth; second, that the character of the rigor mortis enables one to decide whether or not the child was stillborn.

The Removal of Foreign Bodies from the Food and Air Passages.

D. R. Patterson, M. D., M. R. C. P., Honorary Surgeon for Diseases of the Ear and Throat, Royal Seamen's Hospital, Cardiff (*British Medical Journal*, February 8, 1908), discusses the methods of removing foreign bodies from the air and food passages, recording two interesting cases of this kind. He maintains that extraction of the foreign body should be practiced as early as possible, and more especially is this true of soft bodies, such as beans, etc., which swell and are prone to start septic trouble in the lung. He says that articles in our journals still advocate the old method of performing tracheotomy, but he shows how readily bronchoscopy and œsophagoscopy can be practised without such cutting operations. With tracheotomy, the advocates believe that the object can be coughed up, and failing in that, they must confess that one has to grope in the dark with a forceps or wire loop. The direct method points the way that best carries out surgical principles; details of the first case will illustrate this point. A young sailor, while eating nuts when playing "leap-frog," inspired a piece of the nutshell. When seen twelve hours later, he had difficulty in breathing and coarse ronchi were heard over larger vessels. He was chloroformed, the upper part of the respiratory tract cocainized, a Killian tube nine mm. in diameter, was inserted through the larynx into the trachea, which was injected and contained much frothy mucus. This was removed by the salivary pump, and the lower respiratory tract cocainized. The tube was passed down the right bronchus, which was found empty. The left bronchus was blocked up by a reddish mass. Illumination was insufficient, as the lamp of the tube was worn out. The search was then suspended until the following day, when chloroform was given with the use of a new lamp in the Killian tube. The mass in the left bronchus was found

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to be the piece of nutshell, having a hook-like projection over the bifurcation of the bronchus. The convexity of the shell was uppermost, and from beneath it poured a steady flow of mucus. A Killian long forceps was used to extract the nutshell. The whole procedure did not last more than a quarter of an hour. The patient left the hospital two days later.

A Method of Shortening the Time of Normal Labor.

Theodore Landau (*Berliner Klin. Wochenschrift,* No. 1, January, 1908) points out a new method of shortening the period of normal labor. When the pains have set in and the head is in the pelvis, one or two fingers are slipped into the cervical canal, and the effort made to stretch the cervix over the head of the child. Eventually, more than two fingers can be inserted. This procedure should be tried during one of the pains; it brings on new pains, and shortens the period of labor considerably. The procedure is of assistance because this stretching stimulates the nerves, and gives new impulses of contraction, pressing the head down with greatly-renewed force.

The following factors must be considered in this procedure: (1) Labor must be well under way. The cervix must be dilated; (2) the head must be fixed in the pelvis, otherwise the position of the child might be changed; (3)the most absolute asepsis must be practised, and for this procedure the use of the sterilized rubber glove is advisable. The outer genitalia must naturally be thoroughly disinfected.

While the procedure is old, yet it has been allowed to be forgotten, there being little, if any, reference to it in current literature, or in the text-books on obstetrics. Its use has been tabooed for the reason that it has generally been regarded as a dangerous procedure, principally on account of the fear of sepsis. Yet, more formidable cutting operations are repeatedly practised during the course of labor without much fear of sepsis.

Rare Case of "Stone" Cough.

A. Bickel and E. Grunmach (*Berliner Klin. Wochenschrift,* No. 1, January, 1908) state that the finding of stones in the bronchi and lungs is not an uncommon thing for the pathologist to note at autopsy, but as a clinical finding, such things are rare. Sometimes small, hard bodies are found in tuberculous sputum.

They report a case of a woman of thirty-five years, who came to them with three dozen small stones which had been coughed up by her. The stones varied in size from that of the head of a needle to that of a pea, of irregular form, looking, at first glance, like the faceted gall-stones. Chemical analysis showed the presence of calcium and mucin. Microscopic study

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showed, on cross section, a periphery of bronchial epithelia, a centrum of detritus, with a few crystals and leucocytes. No elastic fibers were seen. A diagnosis of bronchial stones was made.

Brief clinical history of this patient showed that she had pneumonia and erysipelas seven years previous to her visit to these clinicians. In 1902 and 1903 she had hæmoptosis. After this she had an irregular cough, expectorating hard, sandy masses. These paroxysms occurred two or three times yearly, the first time in 1902. Examination of the chest showed unmistakable tuberculous areas, although no tubercle bacilli could be found in the sputum.

X-ray photographs of the chest showed a number of areas which were calcified tuberculous zones, from which these bronchial stones were coughed up.

Mosquitoes and Their Relation to Leprosy in Hawaii.

E. S. Goodhue, M. D., of Holuala, Hawaii (*American Medicine,* New Series, Vol. II, October, 1907), discusses the leprosy question, and points out the finding of the lepra bacillus in the body of the mosquito, an observation made a part of the record of the proceedings of the Hawaiian Board of Health. This record is as follows:

"To the Members of the Board of Health:

"I present to you two letters from Dr. W. J. Goodhue, relative to the results of bacteriologic investigations by himself and Father Joseph. These letters, one dated February 10, and the other February 20, 1906, are copied. Concisely stated, the discovery made by Dr. Goodhue and Father Joseph is as follows: (1) The possibility of the existence, and the proof, in fact, that bacillus lepræ (Hansen) has been discovered in the female mosquito, *Culex pungens.* (2) The discovery of *Bacillus lepræ* in *Cimex lectularius* (bedbug.) The technique was as follows: Mosquitoes were caught at random from leper houses, being captured with a net or sterile test-tube, and the same subjected to a vapor of ether, when the mosquito became unconscious, and was easily caught up with sterile forceps, and placed under the dissecting microscope. Beginning with the anal orifice, the abdominal contents were teased out with sterile needles, thereby removing intestines, malpighian tubules, and ovaries; the female mosquito only, with one or two doubtful exceptions, feeding on blood. These structures were then crushed between sterile slides, stained, as usual, with carbol fuchsin (Ziehl) and methylene blue (Gabbett's), mounted in Canada balsam, and examined under high-power oil immersion objectives.

"After repeated failures and constant examination of fresh specimens, success has come so far as demonstrating *bacillus lepræ* (Hansen) in the female *Culex pungens.* Dissections are now being made to determine

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the presence of the bacillus in the veneno-salivary glands, which will enlighten the laity as to the possible avenues of inoculation with leprosy, at the same time strengthen the hands of the profession in its warfare against leprosy."

Treatment of Placenta Praevia.*

H. S. Crossen, M. D., St. Louis (*Bulletin St. Louis Medical Society*, February 0, 1908), says that the general rule of treatment in placenta prævia with decided hemorrhage, is to promptly empty the uterus per vagina, as a life-saving measure. Trying to carry the pregnancy along in order to give the fetus a better chance is too dangerous, and has cost the lives of many women.

Details—Strict antisepsis is especially important in these cases. The records of large series of cases show that nearly half the deaths are due to sepsis. Before any examination is made to determine the cause of bleeding in a pregnant patient (possible placenta prævia), the external genitals and the examining hands should be carefully disinfected. Otherwise the first examination may infect the patient and cause her death, in spite of all that can be done later.

In cases with active bleeding, preliminary tamponade is required to check the hemorrhage temporarily until proper preparation can be made for the serious task of emptying the uterus. But this preliminary packing should be used only when necessary, as there is a possibility of its starting labor pains, and increasing the hemorrhage before adequate preparation has been made for delivery.

What particular method of delivery per vagina should be chosen? There are three points to be kept in mind, (1) the dilation of the cervix must be gradual, because of the danger of serious laceration; (2) there must be compression of the bleeding area during the gradual dilatation, to prevent serious hemorrhage, and (3) that method of delivery is to be chosen which gives the best chance of saving the fetus, provided it does not unduly jeopardize the mother. Everything being ready for delivery, the cervix may now be safely dilated enough to admit two fingers for a more thorough examination. This enables a determination as to whether the case is one that will probably require only minor assistance in the process of delivery, or one that requires radical interference because of threatened serious hemorrhage.

Natural Delivery, with Only Minor Assistance—This is indicated in those cases in which the patient is near the end of gestation, and the bleeding is only slight, and the examination through the partially-dilated cervix shows that the placenta is placed well to one side, and that the head of

* Author's abstract of a paper read before the Obstetric Section, January 28, 1908.

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the child presents normally. In such a case, simple rupture of the membranes will permit the head to come down against the cervix, thus compressing the bleeding area, and at the same time stimulating uterine contractions. Then a close watch is kept. If necessary, a firm vagino-cervical tamponade, or a Voorhees' bag, is used to check the bleeding and soften and dilate the cervix.

Radical Interference, Because of Imminent Danger to the Mother—This is required in those cases in which there has been considerable hemorrhage and more is threatened, or where there is an abnormal presentation or where the placenta prævia approaches the complete variety. In all these conditions, radical interference is indicated in order to bring about effective compression of the bleeding area. Usually, the best way to accomplish this is to introduce two fingers through the slightly-dilated cervix, and, by external and internal manipulations, carefully turn the fetus so as to bring one foot over the internal os (Braxton Hicks' bipolar version). Then rupture the membranes, or perforate the placenta if the membranes can not be reached, and grasp one foot and bring it outside until the knee appears at the vulva. This causes the buttocks and flexed thigh and body of the fetus to act as a plug, to compress the bleeding area during the gradual spontaneous delivery. Ordinarily, no attempt should be made to complete the delivery at once, because of the danger of death from deep laceration of the friable cervix. In Strassmann's series of 231 placenta prævia cases, there were 22 deaths, and 7 of these (almost one-third) were due to laceration of the lower uterine segment, caused by rapid extraction of the fetus. In Edgar's nine cases of placenta prævia the only death was due to laceration caused by rapid manual dilation of the cervix.

Special care must be taken to prevent hemorrhage during the third stage and afterward. Fatal post-partum hemorrhage is frequent in these cases.

Results—In a series, cited by Holmes, of 2,756 cases of placenta prævia of all kinds, in the antiseptic period (since 1877), the maternal mortality was 7.36 per cent, and the fetal mortality 54.1 per cent. In a series of 350 cases of placenta prævia centralis, handled by experts (Schauta, 50; Strassman, 55; Driessen, 53; Doranth, 50; Faurnier, 2; Koblanck, 86; DeLee, 6; Amadi and Ferri, 28; Behm, 20) the maternal mortality was 13.4 per cent, and the fetal mortality 80.5 per cent. In Behm's series of 52 cases of placenta prævia handled without a death, there were 20 cases of placenta prævia centralis. The remarkable results secured by Behm were not due to chance, but to a most careful application of the principles of treatment above mentioned. One point on which he lays much stress is that, after the fetus has been turned and a leg brought down so that the fetus acts as an effective plug, the further dilation of the cervix and

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expulsion of the fetus should be spontaneous and slow. This slow expulsion, extending over a period of one to ten hours, has four distinct advantages: (*a*) It prevents serious laceration of the uterus, to which many deaths are due; (*b*) it gives time for thrombosis to begin in the uterine sinuses, thus tending to prevent the alarming post-partum hemorrhages which come so frequently in these cases; (*c*) it allows the abdominal circulation to gradually adjust itself, thus diminishing the circulatory disturbance, and the shock which has caused death in the markedly anemic cases following rapid delivery, and (*d*) it gives time to administer saline solution and other stimulants, thus preparing the patient for the dangerous third stage.

Zweifel, in a recent article, calls attention also to the fatalities caused by procrastination in placenta prævia, and by imperfect antisepsis in preliminary examinations. He reports 274 cases of placenta prævia with a mortality of 8 per cent. Of the 22 patients who died, each one had lost a quart or more of blood before entering the maternity, or had infection already under way. He urges prompt removal of the patient to a hospital whenever there is a suspicion of placenta prævia, to avoid the blood loss and infection attendant on outside delay.

Exceptions to the Rule—Waiting Plan—There are certain exceptional cases of placenta prævia in which a waiting plan of treatment is permissible. These are cases in which the bleeding is slight, the patient well advanced in pregnancy, the placenta evidently located far to one side, and the desire for a child so strong that the husband and wife are willing to take considerable risk. But the waiting must be a prepared waiting, *i. e.*, facilities must be at hand for prompt delivery in case a serious hemorrhage should occur.

Cæsarian Section—In view of the fact that the mortality of the central variety, even in the hands of experts, is still high (13.4 per cent, including Behm's remarkable series), delivery by Cæsarian section (classical or Porro) may be considered in certain carefully-selected cases of undoubted placenta prævia centralis—but only when expert knowledge and exceptional facilities are available for the selection of the case, and for the execution of the operative work. Whether the reduction of this mortality in placenta prævia centralis will be brought about simply by a more careful carrying out of the above-mentioned details of delivery per vaginam (as indicated by the work of Behm), or will need, in certain of the worst cases, to be supplanted by hysterectomy (Porro Cæsarian section), remains for future experience to demonstrate. In the meantime Cæsarian section, if employed at all, should be employed only in most carefully-selected cases of the central variety, and then only by operators of large experience, and with exceptional facilities. Under ordinary circumstances, the delivery per via naturalis is so far superior to Cæsarian section that the latter is not to be even considered.

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The Unsuspected but Dangerously Tuberculous Cow.

E. C. Schroeder, M. D. V., Superintendent of Experiment Station, Bureau of Animal Industry, Department of Agriculture (Reprinted from Bureau of Animal Industry, Circular 118), says: Tuberculosis is ordinarily a chronic, slowly progressive disease; consequently, some time passes in most instances after a cow becomes affected before she begins to expel and scatter tubercle bacilli in a way dangerous to the health of other animals and persons. Precisely how much time thus passes can not be determined with certainty, as it varies greatly with different animals and is dependent upon individual peculiarities, the location of the disease in the body, the virulence of the infecting bacilli, and a number of unknown conditions. Practical experience indicates that the interval between infection and the dangerous expulsion and dissemination of tubercle bacilli is, with rare exceptions, sufficiently long for a herd to be kept entirely free from dangerously tuberculous animals, provided the tuberculin test is applied not less than once yearly and all reacting animals are segregated and no animal is added until it has passed the test.

The tuberculin test for tuberculosis is almost universally accepted by veterinarians as a nearly infallible means of diagnosis, but it gives no satisfactory information about the extent to which reacting animals are affected. Microscopic examinations and inoculation tests of the secretions and discharges from a tuberculous animal often prove that it is actively expelling and scattering tubercle bacilli, and is therefore positively dangerous; but the contrary, that a tuberculous animal has not reached a dangerous stage, can not be absolutely determined. For this reason, although we know that all cases of tuberculosis diagnosed with the aid of tuberculin are not at the time necessarily dangerous, and that some may not be dangerous until many months have passed, we are forced to assume for practical purposes that every tuberculous cow is dangerous from the moment she is known to be affected. We know that if she is not immediately dangerous she will rarely fail to become so, first intermittently, expelling tubercle bacilli occasionally, and then continuously, expelling and scattering them all the time in increasing numbers. Hence it should be clearly understood that the present state of our knowledge forces us to regard every tuberculous cow as dangerous, and that no distinction for practical application can be made between dangerously and not dangerously tuberculous cows.

If we use the term "dangerously tuberculous" in the restricted sense, the following practical, important questions may be asked: What is a dangerously tuberculous cow? What is her appearance? How does she act and what symptoms of disease does she show? What percentage of tuberculous cows in our dairy herds is dangerously tuberculous?

The first question has already been answered. The dangerously tuberculous cow from the provisional point of view is an animal that is

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expelling tubercle bacilli from her body, either with her milk, urine, feces, saliva, or otherwise, in such numbers and with such frequency that their presence can be certainly detected.

The examinations made at the Experiment Station show that the commonest way in which tubercle bacilli pass from the body of a tuberculous cow is with her feces. Every case of tuberculosis examined that was found to be expelling tubercle bacilli in any way showed them in the feces, and they were found in the feces many times when they could not elsewhere be detected. From this it is reasonable to conclude that the greatest danger from tuberculous cows lies in the infectious character of the material that passes from their bowels. The significance of this fact is apparent when it is viewed in conjunction with the following paragraphs quoted from a bulletin recently published by the United States Public Health Marine-Hospital Service:[1]

In addition to being old and warm, much of the milk sold in Washington is dirty. Fifty-one of the 172 samples examined showed no visible deposit in the original container after several hours' standing. Fifteen of the samples contained a very small amount of dirt, 98 contained a small amount of dirt, 8 contained much dirt, and 1 contained mouse (?) feces.

This foreign matter (dirt) when examined under the microscope was found to consist of fecal matter, hair, epithelial and other cells, straw, bacteria, and all manner of extraneous substances that have no place in clean milk.

After several hours' standing in the original containers one hundred and twenty-one of one hundred and seventy-two samples, or seventy per cent of the kind of milk that reaches the city consumer, showed a visible deposit of dirt, which was found on microscopic examination to be made up in part of fecal matter. This dirt is characterized in the report of the United State Public Health and Marine-Hospital Service as "fully as undesirable as pathogenic or disease-producing germs are dangerous." To this should be added that we are now in a position to say that the presence of cow feces in milk, entirely apart from the impression it may make on the taste and appetite of the consumer, is *prima facie* evidence that the milk, when it is obtained from a tuberculous dairy herd, contains pathogenic bacteria. We will later return to this subject.

PHYSICAL APPEARANCE OF DANGEROUSLY TUBERCULOUS COWS.

The second and third questions may be answered together. The dangerously tuberculous cow, long after she has become dangerous, may continue to look and act like a healthy animal. She may show symptoms neither of discomfort or disease; her appetite may be good, and she may conceive, calve and milk like an ordinary cow. Sometimes, but not always, if we except long-standing cases of tuberculosis, she has a slight, infrequent, easily overlooked cough. If she is a member of a herd in which the other animals are thin, then, too, she is thin; on the other hand, if she is a member of a sleek, fat herd, she may be the sleekest and fattest

[1] Hygienic Laboratory, Bulletin 35. p. 71.

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of the lot. As a rule it is no exaggeration to say that visibly tuberculous cows have very probably been dangerously tuberculous for several years.

PERCENTAGE OF DANGEROUS COWS IN DAIRY HERDS.

We now come to the fourth question, which concerns the percentage of cows in dairy herds that are dangerously tuberculous among those found to be affected with tuberculosis through the application of the tuberculin test. It must be borne in mind constantly that the term "dangerously tuberculous" is used only for the sake of convenience to designate those cows of which it can be shown beyond doubt that they are disseminating tubercle bacilli, not actually to separate the dangerously from the not dangerously tuberculous, which is impossible.

The number of cows examined to obtain an answer to the fourth question was not large; there were twenty-four which were removed directly from dairy herds; and six others which were known to have been affected with tuberculosis three years or more. Among the former, ten, or a trifle over forty per cent, were found to be expelling tubercle bacilli, and among the latter all were expelling them. Examinations of the same kind will be continued, and a report will probably be published later, when the results in a larger number of cases can be given.

The cows removed from dairy herds, notwithstanding their tuberculous condition, had the general appearance of ordinary dairy cows, and those regarding which it could be demonstrated that they were expelling tubercle bacilli appeared to be and acted fully as well as those regarding which this could not be demonstrated. Among the twenty-four cows, twelve were specially selected for another investigation, because a careful physical inspection indicated that they were in the early stages of the disease. From this we may conclude that the examination of a larger number of tuberculous dairy cows will tend to increase rather than reduce the percentage of those which are without doubt expelling tubercle bacilli, though it must be admitted that the physical inspection of tuberculous cows gives no reliable or satisfactory information about their condition, unless they are so badly diseased that no conscientious dairyman would continue to sell their milk.

From the six cows known to have been affected with tuberculosis for three years or longer, all of which were passing tubercle bacilli in a manner capable of actual proof, we may justly conclude that with possibly rare exceptions all tuberculous cows eventually become dangerous, and it is merely a question of time after a cow has contracted tuberculosis when she will begin to scatter tubercle bacilli.

The prevalence of tuberculosis among dairy cows has been estimated at all the way from ten per cent to ninety per cent. The one figure is certainly too low and the other too high. There are many herds that have never been tuberculous, some that have been cleaned of tuberculosis, and

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others in which every cow is affected. The best evidence we have of the common presence of tuberculosis among dairy cows is the claim made by some dairymen that a milk famine would result from the condemnation of all tuberculous cows for dairy purposes. The dairymen who make this claim evidently know what they are talking about, and though we may assume that they make it rather with the intention to oppose a feared general application of the tuberculin test to dairy herds than to call attention to an extremely dangerous and objectionable condition, the claim is in truth a strong argument to prove how urgently vigorous action is needed to clean dairy herds of diseased animals.

DANGER FROM INFECTED MILK AND BUTTER.

We must now return to the significance of a sediment in milk. We have seen from the work of the United States Public Health and Marine-Hospital Service that among one hundred and seventy-two samples of city milk examined, one hundred and twenty-one, or seventy per cent, contained a sediment after standing a few hours in the original containers, and that the sediment consisted in part of cow feces. Tuberculosis is so common among dairy cattle that milk producers frequently assert, as before stated, that a milk famine would be one of the results if the tuberculin test were applied to all dairy cattle and if all those reacting were condemned for dairy purposes. We know that it can be definitely shown that about forty per cent of all cows that react to the tuberculin test, though they still retain the appearance of health, are actively passing tubercle bacilli.. We know that the commonest mode for tubercle bacilli to be expelled from the body of a tuberculous cow is with her feces. And we know that it has been demonstrated that the bacilli contained in the feces of tuberculous cows are alive and virulent. Add to this the two facts that butter made from milk soiled with the feces of cow No. 1 produced tuberculosis on the inoculation of guinea pigs, and that the tuberculous infection contained in the butter made from the milk of cow No. 509 showed no diminution of virulence after forty-nine days, and it is hardly necessary to formulate the conclusion that tuberculosis among dairy cows is one of the greatest dangers to which public health is exposed, and that every effort should be made by those who have the welfare of humanity at heart to correct this great evil.

Doctors Herr and Beninde,[1] two German investigators, concluded from their work that skim milk, buttermilk, cream, butter, and centrifuge slime or sediment obtained from infected milk contained tubercle bacilli, and that the most intensely infected of these substances are butter and centrifuge slime. Among four hundred and forty-four samples of butter tested by them and other investigators, sixty, or over thirteen per cent, were found to contain tubercle bacilli. Broërs,[2] of Utrecht, places the frequency

[1] Zeitschrift für Hygiene, etc., Vol. 38, page 180.
[2] Zeitschrift für Tuberkulose, etc., Vol. X, No. 3.

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with which the milk of his country contains tubercle bacilli at ten per cent, and shows that they may be present in skim milk, cream, buttermilk and butter, and retain their virulence a long time. Brittlebank,[3] of England, reports that the milk supplied to the city of Manchester, obtained from different counties, showed from three per cent to twelve per cent of the samples examined to be infected with tubercle bacilli. Dr. Alvin Burkhardt,[4] after the examination of one thousand four hundred and fifty-two human cadavers, found that ninety-one per cent showed lesions of tuberculosis irrespective of the cause of death. Nägeli, from the examination of five hundred cadavers, places the figure at ninety-six per cent, and Schlenker, from one hundred, makes it sixty-six per cent. Other investigators have added the weight of their testimony to substantiate this amazing frequency with which persons are shown to be affected with tuberculosis. These autopsy revelations indicate that few human beings entirely escape tuberculosis, though the majority die of other diseases and many are not conscious during their lives that they are affected. This is just what we should expect when we know that tubercle bacilli, concealed in butter, milk, cream, and other dairy products, are systematically and regularly distributed in a way that insures their ingestion by persons wherever the sale of milk from tuberculous cows is permitted.

If the public were thoroughly informed of the dangers, among which tuberculosis is only one of many, to which it is exposed through the use of impure, dirty and infected milk, the demand for milk of approved purity would rise to the magnitude of a concerted national movement and would sweep all objections and difficulties out of its way. Inform a man that a single one among many loaves of bread—you do not know which—is contaminated with arsenic, strychnin or some other commonly dreaded poison, and he will go very hungry before he risks eating any loaf of the lot. He knows what arsenic and strychnin are and what he must expect from their introduction into his stomach. Yet he continues to use milk and dairy products, and permits his family to use them, without first testing their purity or insisting that the doubt about their purity shall be removed, notwithstanding that they have repeatedly been shown to contain poisons fully as objectionable and potent as those above named, such as the germs of tuberculosis, typhoid fever, scarlet fever, diphtheria and other diseases, and the poisons that are the cause for the high death rate from abdominal diseases among children who have not passed the milk-drinking period of life.

THE GREAT IMPORTANCE OF A PURE MILK SUPPLY.

There is an important moral side to the milk question which must not be ignored. We may have the right—a very doubtful right, to be exact—to neglect the dangers to which we, as adults capable of judging

[3] Experiment Station Record, Department of Agriculture, Vol. XVIII, p. 581.
[4] Zeitschrift für Hygiene etc., Vol. 53, No. 1.

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and acting for ourselves, are exposed; but we have absolutely no right to neglect the conditions that cause suffering and death among children. The failure to act and to act quickly and unceasingly until a safe milk for children, at least, is within easy reach of every mother, may be characterized as barbarous, if not criminal, indifference. It is an offense against the innocent, unquestioning confidence which children repose in their adult friends.

Under our present conditions of civilization the importance of milk is second only to that of air and water. Without milk thousands of children who grow to useful maturity would starve before they completed the first year of their lives. The excellent work done by Dr. George W. Goler, of Rochester, N. Y., proved beyond doubt that thousands of lives are annually lost through the use of impure milk. The reform his praiseworthy and untiring energy brought about in Rochester, by no means a very large city, reduced the mortality among children under five years from seven thousand four hundred and fifty-one for the ten years ending in 1896 to four thousand, nine hundred and sixty-five for the ten years ending in 1906. This shows a saving of two thousand four hundred and eighty-six lives, among which one thousand five hundred and fifty-four, or sixty-two and five-tenths per cent, were children under one year old, that is, had not passed the period of life during which milk forms the most important element of their daily food.

What can be done by substituting a pure milk supply for an impure one is shown by the following quotation from the New York Medical Record's London letter of July 26, 1907:[5]

> At Leeds a voluntary society established a year ago a depot for supplying a pure milk, as the corporation had no power to do so. But the health officer has made a report on the working. He concludes that, making allowance for the mortality for the first week of life and for those born moribund, there has been a saving of life of twenty-five per cent among the children using the society's milk as compared with those living in the same district at the same ages and during the same seasons fed otherwise. The experiment was on a small scale, but as far as it went was more successful than he could have anticipated.

The dairyman is not alone to blame for impure milk. As a rule, he attempts to supply a pure milk to his customers and is not conscious of the impurities and infections in the article he is distributing. The price he receives is too low for the production of a constantly pure milk. He should be better paid. If the money that now goes to druggists, doctors, undertakers and burial grounds directly through the use of impure and unwholesome milk could be diverted to the dairyman, he would be amply paid for producing a wholesome, safe milk, and the entire community would profit by having better health, fewer deaths, and less suffering.

[5] New York Medical Record, August 17, 1907, p. 275.

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CONCLUSIONS.

1. The dangerously tuberculous cow is an animal that may long retain the appearance and general semblance of perfect health.

2. The methods we now have to detect the presence of tubercle bacilli in the secretions and discharges from tuberculous cows are too crude to give positive results unless the bacilli are quite numerous; hence, while we can frequently obtain direct evidence that a tuberculous cow is dangerous, the failure to obtain such evidence does not prove that a tuberculous cow is safe.

3. Among tuberculous dairy cows that retain the appearance of health and are not known to be affected until they are tested with tuberculin, forty per cent or more actively expel tubercle bacilli from their bodies in a way dangerous to the health of other animals and persons.

4. Dairy cows that have been affected with tuberculosis three years or more, with possibly rare exceptions, are active agents for the dissemination of tubercle bacilli.

5. The general evidence justifies the conclusion that tuberculous cows do not expel tubercle bacilli until some time after they contract the affection. The practical importance of this is that it enables us to clean herds of tuberculous cattle by the periodic application of the tuberculin test and the segregation of all reacting animals.

6. The interval of time that elapses between infection with tuberculosis and the dangerous expulsion of tubercle bacilli can not serve as a reason for retaining a tuberculous cow in a dairy herd after the fact that she is tuberculous has been determined. The duration of the interval after infection, before the expulsion of bacilli begins, varies greatly with different animals, and it is rarely possible to ascertain how long a cow has been affected when her tuberculous condition is first discovered.

7. From the present as well as from former[1] investigations we know that the commonest way for tubercle bacilli to pass from the bodies of tuberculous cows is with their feces. This fact, together with the common presence of tuberculosis among dairy cows and the frequency with which cow feces are found in the milk that reaches the consumer, is clear evidence that a considerable proportion of our dairy products are infected with tubercle bacilli.

8. The danger from the presence of tuberculosis among dairy cows is not confined to the use of milk as a beverage. When tubercle bacilli are present in milk they enter the various articles of diet prepared from it, and are specially numerous in butter, in which they may remain alive seven weeks or longer without showing a diminution of virulence.

9. The distribution of tubercle bacilli from tuberculous cattle in a way to endanger human health is not left to chance. It is a commercial,

[1] Bureau of Animal Industry, Bulletin 99.

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systematic distribution, from door to door, or rather from table to table. As long as the use of tuberculous dairy cows is permitted, the manner in which dairy products are distributed will insure that practically every member of the human family is exposed to tuberculosis. This may explain why three European investigators from their post-mortem examinations of respectively one thousand four hundred and fifty-two, five hundred and one hundred bodies of persons who died from various causes found that, among this total of two thousand fifty-two hundred bodies no less than ninety-one per cent showed lesions of tuberculosis.

10. While the danger to which public health is exposed through the use of milk from tuberculous cows is of a magnitude almost beyond conception, it is, unfortunately, only one among many dangers to which persons are exposed through the use of impure, infected and dirty milk.

11. If the inclination of the general public does not drive it to correct the evils to which it is exposed through the use of impure, infected and dirty milk, it should bear in mind that common humanity imposes various sacred obligations, among which pure, wholesome milk for children ranks near to the first place. We have no right to shirk this obligation, and would have no inclination to shirk or ignore it if we took the time and trouble to investigate the number of deaths, especially among infants, directly due to contaminated milk. Most intelligent persons who read have some knowledge of the fact that numerous babies die from no other cause than the use of impure milk. Unfortunately, the frequency with which milk from tuberculous cows causes tuberculosis is not so clearly apparent, because of the insidious, chronic character of the affection.

12. Our dairy herds can be cleaned of tuberculous cows by the proper application of the tuberculin test and the segregation of all reacting animals. After years of observation the tuberculin test has been found to be a more nearly infallible means for diagnosing tuberculosis than any we have for diagnosing other diseases of men and animals.

PROFESSOR HAFFKINE read a paper before the Royal Society of Medicine showing that disinfection was of no avail against plague. A campaign against rats, he said, was most rational, but owing to the rapid multiplication of the survivors it was uncertain whether it was possible to make a noticeable impression within a generation. He favored inoculation, which reduced a native Indian's liability to attack to less than one-third as compared with non-inoculated Indians. Dr. Ashburton Thomson agreed with Professor Haffkine's views regarding immunization and referred to Professor Haffkine's genius in this respect. He also favored evacuation and the destruction of rats.—[*Indian Public Health and Municipal Journal,* February, 1908.]

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EDITORIAL

THE CORONER'S SYSTEM OF THE UNITED STATES.

The need for a change in the present Coroner's system in vogue in the United States is, indeed, pressing. As it exists with us, it is practically the same as that of Great Britain—an office of our forefathers, the "Crowner's" office, useful in its day, perhaps, but now obsolete. The system in nearly all of the States is, that in every county there shall be an elective officer, called the Coroner, whose duty it is to investigate the causes of death of people dying by accident, those dying without medical attention, and those who die by suicide or by homicide or by alleged homicide. The Coroner thereupon holds an inquisition, with or without a jury (usually composed of six men), finds a verdict and issues a burial certificate. At this inquisition, the Coroner has the right to summon witnesses and gather evidence by direct and by cross-examination. As usually conducted, the Coroner's inquisition is a joke upon the laws of evidence. No thought is given to the rights of a defendant, if there be one, and all manner of questions are asked that would be promptly objected to by a competent attorney were the case on trial in a court of record. Often an alleged defendant is practically made to incriminate himself by being deprived of the advice of counsel.

While the transactions of the Coroner's inquisition are not acceptable in a court of record, for the reason that no respect is paid to the laws of evidence in the gathering of the material for said transcript, nevertheless, the prosecuting officer has the advantage of knowing the facts already brought out by the Coroner in his inquisition, and these may be used to the marked disadvantage of the defendant. This is, in itself, a serious flaw in the system, and is absolutely incompatible with the spirit and letter of the Constitution of the United States.

Another flaw, perhaps much more serious than the inherent unconstitutional powers of the Coroner in extracting information from defendants and witnesses, is the loose and incompetent manner in which the legal autopsy is often performed by the average Coroner's autopsy physician. The autopsy physician is, ordinarily, a practitioner who happens to be appointed to his office not because he has especial fitness for the performance of the duties of said office, but because he is sponsored by the political gang which has elected the Coroner to *his* office. Well and good; maybe a competent physician may happen to be so sponsored, may be not. Let us grant that he is incompetent. There may be an important issue arise affecting the life or liberty of some accused individual, dependent alto-

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gether upon the findings of this autopsy physician. The cause of death may be natural, and the ignorant autopsy performer may mistake it for something different, perhaps poison or some other homicidal agent. An innocent man may thus be falsely accused, and may even be executed as a result of the ignorance of the Coroner's assistant. Few there are who realize that the Coroner's autopsy physician lays the foundation for every homicide case. His decision determines the nature of the indictment, and practically the whole of the State's case. And yet, with all this weight upon his shoulders, the autopsy physician's office is so obscure that it has in most counties not even an official designation; he is often any physician selected at random from the Coroner's medical acquaintances.

Another point: In cases of suspected poisoning there is no provision, in most counties, for the services of a toxicologist. This part of the work is often done by the self-same autopsy physician. He is often, neither by experience, training or inclination, capable of conducting this specialized chemical manipulation. The work is, consequently, performed in an incompetent manner, with untold possibilities of placing some one's life or liberty in jeopardy.

A reform in this direction is crying, expedient and necessary. There should be a uniform movement of the medical press of the country to correct the system in every State in the Union where this obsolete condition prevails. Massachusetts, pioneer as she is in so many good things, reformed the Coroner's system in 1877 by abolishing the office and creating the office of Medical Examiner, an officer appointed by the Governor of the Commonwealth, in each district of the State. The duties of the Medical Examiner are as follows: At the direction of the Prosecuting Attorney of the district or county, the Medical Examiner (who, in the State of Massachusetts, has always been selected because of peculiar fitness for performing the duties of his important office) proceeds to hold an autopsy and investigate, in a scientific manner, the cause of death of the deceased in question. If the information which he gathers is judged by him to be of sufficient importance to warrant putting the wheels of justice in motion, such evidence is immediately laid before the Prosecuting Attorney, a preliminary hearing is held, and the case regularly and constitutionally considered, thereby superseding the irregular and unnecessary Coroner's inquest. In this way, a competent officer conducts a legal inquiry, according to the spirit of the constitutional law of the country, and the ends of justice are well served. Some such system as this should be in vogue in every State. Civilization demands it, as justice is often defeated under the present system. This reform is one to which the entire profession should put its shoulders to the wheel and seek to bring about.

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GUAIACOL IN THE TREATMENT OF PNEUMONIA.

While the use of guaiacol in tuberculosis of the lungs is fairly well known, but little attention has been paid to it as a remedy in the treatment of other infectious diseases, for instance, in pneumonia. Guaiacol is produced by the fractional distillation of beechwood creasote, of which it constitutes from sixty to ninety per cent. The purest form of guaiacol, however, is that made synthetically from the dry distillation of guaiac resin. Its properties, as a diaphoretic and antithermic, are demonstrable in all febrile conditions. As an agent in the treatment of tuberculosis pulmonalis, guaiacol has been lauded to the skies. It certainly acts well in that condition, improving the appetite, lowering the temperature, and, so some competent observers maintain, lessens the extension of the local destructive processes.

A most interesting communication from Dr. M. G. Cain, of Epping, N. H., appeared in the January 15, 1908, issue of *The Therapeutic Gazette*, in which this writer reports, altogether, a series of fifty cases of pneumonia treated with guaiacol, with a successful issue in every case, and that, too, without selection of the cases. His method was the slow dropping of twenty drops of guaiacol anywhere upon the skin of the patient, after washing the area with soap and water, or ether. The dropping was not repeated in less than twelve hours. The agent acted promptly, producing free perspiration within an hour, improvement in the pulse, temperature, and color of the skin. Within six hours the temperature dropped from two to four degrees, and the general symptoms are much improved. In some mild cases, it was not necessary to repeat the treatment, the temperature not rising again above normal. The average number of treatments was between three and four.

We are able to confirm these observations, in a measure, as representing true and definite results obtainable by the use of this agent in the treatment of croupous pneumonia. There certainly seems to be something rational in this treatment, and it deserves more attention than it has received at the hands of the profession. We urge the profession to give it a trial, and not be content to remain practically nihilistic, as regards medicaments in the treatment of pneumonia. Most physicians are content to employ heart stimulants and hydrotherapy in coping with this disease. The average mortality, under this nihilistic method, is high. The report of Cain—fifty cases without a death—does not appear to be a therapeutic accident. It means a definite result; and, undoubtedly, the success which has attended the use of guaiacol in the treatment of pulmonary tuberculosis warrants its employment as a therapeutic agent in other infectious diseases, particularly in croupous pneumonia. We will wait with interest reports of other clinicians, giving an account of their experiences with guaiacol in pneumonia.

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COMMERCIALIZING SCIENTIFIC INSTITUTIONS.

A circular and personal letter has recently been issued by the Memorial Institute for Infectious Diseases, of Chicago, Ill., addressed to the medical profession, calling attention to the fact that the scale of prices for diphtheria antitoxin has been too high, and that this institute is able to furnish reliable serum at a much lower rate than is charged by the commercial houses engaged in the manufacture of these products. It, therefore, requests the profession to purchase serum made by the institute which is furnished at a lower rate, in fact, at a rate "designed to cover the actual expense of production and distribution, together with provision for the progressive scientific work essential to maintaining the uniformity and potency of the product." Further, the circular states, "it is not the intention of the institute in any way to utilize its endowment for entering into competition with the commercial manufacturers of diphtheria antitoxin, but rather to determine the actual cost of production under carefully-controlled conditions, and to dispose of its limited output on this basis."

With all due respect to the institute and its staff, we are rather averse to the idea of this specifically-endowed institution entering the field of antitoxin manufacture and sale. If there were the slightest doubt in the minds of any one that the commercial houses of the United States which are engaged in the manufacture of this article, were not conducting this production under the most competent direction, and with every known appliance and facility, we would unqualifiedly put our stamp of disapproval on the products issued by these houses, refuse to use them, and suggest that this serum manufacture be conducted by governmental- or privately-endowed institutions for scientific research. Knowing, as we do, however, the high character of the experts who direct the manufacture of antitoxic sera in these commercial houses, knowing the fact that no expense has been spared by these houses in really developing the science of serum production and therapeusis, knowing the remarkably successful clinical experiences of the practitioners of America with these products, and, finally, knowing that every step of the process has for some time been under the eagle eyes of the official inspectors of the United States Public Health and Marine Hospital Service, who, in turn, examine and test all the products made by serum houses, we feel that the manufacture of these delicate goods is in safe and sane hands, that but a reasonable profit is made by these houses on these goods; that, in fact, they *deserve even more* than this profit by reason of their pioneer work in developing scientific research along most practical lines: in short, we regard this gratuitous attempt to enter this field in this manner on the part of the Memorial Institute of Chicago as

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presumptuous and uncalled for, and that a very poor argument has been advanced before the profession by the institute to secure their support.

Again, it might be added that governmental, State, municipal or institutional paternalism, if this expression may be pardoned, in regard to the manufacture of antitoxic sera, should be vigorously opposed, for the reason that the process of manufacture and preparation of these goods requires the most exact technique and care; that the commercial houses engaged in the manufacture of diphtheria antitoxin have already proved that they *can* make these products right, and that they are willing to stand the moral and financial responsibility for the mistakes of their employes. Who can say that the Government, State, city, or privately-endowed institute is either willing to stand this responsibility or can be legally punished for carelessness or ignorance. In proof of which, we need only allude to the example of the ignorant, incompetent or careless methods which characterized the mode of manufacture of diphtheria antitoxin by the municipality of St. Louis, Mo., a few years ago, when, after months of much carelessness in manufacture of this sensitive product, the inevitable finally happened—the serum became contaminated with tetanus toxin, resulting in the death of some dozen or so children upon whom this supposedly carefully-made product had been used for the treatment of diphtheria. This accident gave a black eye to serum medication for some time, until the commercial houses successfully demonstrated that such accidents are due to carelessness, and are absolutely avoidable. Yet was there any redress against the municipality of St. Louis, Mo., or its erring servants, either upon criminal or civil grounds? Ask the bereaved parents, who have tried in vain to enter criminal and civil action against the Mayor and Board of Health of the city of St. Louis. For the protection of the public, therefore, this business should remain in the hands of those who are responsible, and who have already demonstrated their earnestness and sincerity of purpose in manufacturing scientific products.

We do not wish to be understood as holding a brief for the commercial houses, but we present this case on its merits, believing that this business should continue to be conducted as it has been in the past, both in the interest of the public and the profession of medicine. This circularizing of the profession by the Memorial Institute for Infectious Diseases, of Chicago, is, we repeat, misguided, presumptuous and uncalled for. Notwithstanding their distinct statement to the contrary, this institute is also commercializing itself in this movement, and deserves censure on this point. As we understand its avowed purpose, the institute was specifically endowed for scientific research. Let its staff devote themselves to this end, to the glory and honor of medicine.

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CLINICAL NOTES.

KEEP MOUTH, TEETH, TONSILS AND NOSE CLEAN.

As a wash for the mouth and teeth, or a gargle for the tonsils, a tablespoonfull of Pond's Extract of Hamamelis Virginica in a half-glass of warm water will be found very agreeable and effectively antiseptic—not so much so, perhaps, because of its immediate destruction of bacteria, as by reason of its astringent and sedative action on inflamed areas, thus making sensitive and susceptible tissues less favorable locations for the growth and propagation of germ life, all of which also applies to the following combination as a spray for nose or throat:

Sodii Bicarb.....2 drachms.
Acide Borici.....2 drachms.
Pond's Extract.....1½ ounces.
Aq. destil..q. s. ad.4 drachms.

The wash and spray should be used daily after breakfast and before retiring at night—oftener if much exposed—and to avoid the toxic dangers of substitutes adulterated with wood alcohol and formaldehyde, only Pond's Extract (the standard among distillates of Hamamelis for over half a century) should be prescribed.

THE BLOOD DYSCRASIAS OF PREGNANCY.

The female economy undergoes profound changes in the pregnant state. General changes in the metabolism of the woman put a severe tax on the constructive forces of the body and on the eliminative functions as well. Faulty elimination means embarrassment of the hematogenic function, with hemolytic changes more or less severe, and these conditions in turn coincidently increase the amount of waste substances to be excreted, lowering the eliminative capacity as well. The blood dyscrasias, particularly the anemias, call for early correction in pregnancy. Vigorous treatment is necessary and among the really effective therapeutic measures at our command, Pepto-Mangan (Gude) is especially worthy of prominence. This widely known and widely used product possesses marked hematopoietic properties, and its effect on the increment of new blood cells gives valuable aid in promoting rapid and effective elimination.

CATARRH OF THE FEMALE GENITAL ORGANS.

Justin Herold, M. D., New York City, says that vaginitis should be treated first by douching the parts with a solution of Glyco-Thymoline, one ounce to a quart of water, hot, applying strips of cotton or gauze saturated with the solution and left in place for twelve hours, and it even may be repeated more frequently than twice a day. This may be alternated with other antiseptic and astringent solutions. In other and severe forms of vaginitis, douching and irrigation of the parts with Glyco-Thymoline may be practiced with advantage, and after the application of stronger caustic and other remedies. If the uterine mucous membrane be the seat and origin of the disease the parts must be dilated, strong applications made, irrigated before and after to clean out all deleterious material and to neutralize the excess of the caustic or other medicament that may be employed. For this purpose I make use of irrigations of Glyco-Thymoline, one ounce to the quart.

PAMPHLETS.

THE COMMON CRIME AND ITS DANGERS. —By J. S. Tyree, Chemist, Washington, D. C.

This brochure calls attention to the common crime of substitution and warns the practitioner to be sure that his prescriptions are honestly filled after he writes them, otherwise he will be unable to understand his failure to obtain such results as are expected by him.

The author shows that ten prescriptions were written for Tyree's Antiseptic Powder in a certain city and in eight instances inferior substitutes were given out by the dispensing pharmacist, as proven by reliable chemical analyses.

NOTE.

TWENTY-NINTH YEAR OF THE ALIENIST AND NEUROLOGIST.

The February issue of the *Alienist and Neurologist*, 1908, will contain some very interesting papers of value to the specialist, savant, attorney and general practitioner. The paper will be sold at the rate of $5.00 per year, or together with the *Journal of Nervous and Mental Diseases*, for $8.00 per year. Address H. L. Hughes, 3872 Washington Avenue, St. Louis, Mo.

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BOOK NOTICES.

A REFERENCE HAND-BOOK OF THE DISEASES OF CHILDREN. For Students and Practitioners. By Professor Dr. Ferdinand Frühwald, of Vienna. Edited, with additions, by Thompson S. Westcott, M. D., Associate in Diseases of Children, University of Pennsylvania. Octavo volume of 533 pages, containing 175 illustrations. Cloth, $4.50 net. W. B. Saunders & Co., Philadelphia.

This work represents the author's twenty years' experience, and is intended as a practical reference work for the student and practitioner. With this reference feature in view, the individual diseases have been arranged alphabetically.

A MANUAL OF PRESCRIBING; FOR STUDENTS AND PRACTITIONERS OF MEDICINE. By C. R. Marshall, M. D., Professor of Materia Medica and Therapeutics in the University of St. Andrews; Assistant Physician to the Dundee Royal Infirmary. London: J. & A. Churchill, 1908. P. Blakiston's Son & Co., Philadelphia. Price, $2.00.

This little book is an appeal to those who fear that the art of prescribing is truly a "lost art." It is simply an endeavor to show the principles that underlie the problem of combining medicines to form palatable and potent prescriptions. The writer speaks of the time and space in the medical curriculum now devoted to the studies of pathology and pharmacology, little attention being paid to materia medica. This is a fact which can not be denied. However, the tide seems to be turning towards the use of medicines once more. Such a work of this kind is, therefore, timely, and should be read by those who feel like improving their rudimentary knowledge of prescription writing. This should, naturally, apply more to the younger men in the profession, rather than to the older men, for the older graduates were carefully schooled in *their* day at medical college on this point.

BLOOD STAINS; THEIR DETECTION AND THE DETERMINATION OF THEIR SOURCE. —A Manual for the Medical and Legal Professions. By Major W. D. Sutherland, of His Majesty's Indian Medical Service, Doctor of Medicine. New York: Wm. Wood & Company, 1907.

This little work of 167 pages represents a great deal of painstaking work on the part of the author. It is a compendium of the known work upon the detection of blood-stains by chemical, microscopical, spectroscopic and serologic methods. The subject is taken up in a logical manner, with a review of all the various tests that have been used in the past, with criticism of each and summary of the results obtainable with all of them. The information which is massed in this little work could not be obtained in any other way than by wading through medical literature for many, many hours. This information, comprising all the medical literature upon this subject, is further made valuable by Sutherland's own work along this line. Especial interest is attached to the chapters upon the serological identification of blood stains, based upon the work of Ehrlich, Nuttall and Uhlenhuth, and others.

This little work is one of the most important additions to the literature of legal medicine that we have seen. It deserves full recognition and wide reading by those so interested.

THE PRODUCTION AND HANDLING OF CLEAN MILK. By Kenelm Winslow, M. D., M. D. V., B. A. S. (Harvard), formerly Instructor in Bussey Agricultural Institute and Assistant Professor in the Veterinary School of Harvard University. Author of a Text-Book on Veterinary Materia Medica and Therapeutics, Chairman of the Committee on Milk of the Washington State Medical Association, etc. New York: William R. Jenkins Co., Publishers, 851-853 Sixth Avenue. Price, $2.50, post paid.

This book is written as much for the agriculturalist as for the doctor and public health official. It deals with the question of producing and maintaining clean milk. To this end it goes into the bacteriology of milk, and shows how and why milk becomes contaminated. It gives, in excellent fashion, the various methods of testing for the chemical and biological purity of milk. It gives information concerning the milking of cows and the distribution of the milk. In short, it ought to prove an excellent guide-book for those engaged in either supervision of the milk industry or those actually engaged in it and who desire to sell good, pure milk. The medical man is naturally interested in a book dealing with the production of an article which is used so universally as a food,

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both for infants and for adults. The work in hand is well worth perusal by the medical fraternity for this reason.

DISEASES OF THE BREAST, WITH SPECIAL REFERENCE TO CANCER. By William L. Rodman, M. D., LL. D., Professor of Surgery in the Medico-Chirurgical College of Philadelphia; Professor of Surgery in the Woman's Medical College of Pennsylvania; Surgeon to the Medico-Chirurgical College Hospital, The Woman's College Hospital, The Philadelphia General Hospital, The Jewish Hospital, and to The Presbyterian Hospital; Fellow of the American Surgical Association; Member de la Societe Internationale de Chirurgie, etc. With 69 plates, of which 12 are printed in colors, and 42 other illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1908. Price, $4.00 net.

When we think of diseases of the breast, our thoughts turn instantly to cancer. And so it is in this work of Rodman's; while he gives a good description of the anatomy and physiology of the breasts, and deals at length with some inflammatory and benign tumors of the mammary glands, the book is mainly devoted to a consideration of the question of carcinoma mammæ, its pathology, diagnosis and treatment. There is a splendid description of the pathologic anatomy of cancer of the breast, both macroscopic and microscopic, well illustrated. There is a good text description of the various operations for the radical removal of cancer of the breast, with full illustrations of the same. The writer gives the fruits of his long experience in dealing with this condition, and lays stress upon the point which he had learned long ago from his great teacher, Samuel Gross, of Philadelphia, one of the pioneers in breast surgery. Gross emphasized the necessity of wide incisions in removing the breast, and this teaching has been the guide for the radical operators of today. There seems to be a unanimity of opinion among surgeons as to the wide operation for carcinoma mammæ.

The present volume by Rodman will prove a valuable text-book for student or surgeon. It reflects the experience of a practical surgeon in dealing with what is essentially a surgical subject. It, therefore, should be in the library of the practitioner of medicine.

A New Commode Bed.

An ingenious contrivance, devised by Mr, Heatley, of Edinburgh, for use in the hospital or sick room, has been patented and put on the market. It consists of a hospital bedstead, having an opening in the center about the position occupied by the pelvis. Underneath this opening is a carrier holding an enameled iron bed pan, which is lowered or raised into position by means of a lever. Raising the pan brings it through the opening in the bedstead into a corresponding space in the mattress, all draught being excluded by means of a metal plate, where the pan is brought into the exact

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position required by the patient. When the pan is removed its place in the mattress is taken by a circular cushion, which so exactly fits the space that the bed then differs in no respect from an ordinary one. The great advantage of being able to apply a bed pan without shifting the patient or moving the bed clothes, the cleanliness of the operation and consequently diminished liability to bed sores, and the simplicity and easy working of the whole arrangement should commend the contrivance to physicians and surgeons everywhere.

BEGINNING with the April issue "The Electro-Therapeutist," formerly published by H. C. Bennett, M. D., of Lima, Ohio, will be consolidated with Albright's "Office Practitioner," Philadelphia. There will be no change in the title, policy or management of the latter journal, the only change being an increase of the number of pages.

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., MAY, 1908. NO. 5.

THE PLACE OF MASSAGE IN MODERN THERAPY.

BY A. W. HERR, M. D., Cleveland, Ohio.

[Written for the MEDICAL BRIEF.]

Massage, as a method of treatment, is as old as surgery, and "its origin has been lost in the night of antiquity."

No remedial agent dates from such a venerable past, no other has gained so much renown and found such widespread, useful application as massage. In ancient times the uncultured tribes of Africa and of the South Sea Islands, the Chinese and the Hindus used some form of it as the universal remedy in disease. "Cong-Fou of the Tao-Sse," a work written in Chinese about 1000 B. C., and translated into French, undertakes to explain the procedures of massage.

The Romans made use of it in connection with their splendid and magnificent baths. Hippocrates, the father of medicine, called it anatripsis. Galen, whose authority in medicine was supreme in Europe for a thousand years, used it and gave minute directions for its application.

Peter H. Ling (1776-1839) organized these manual movements into a system of procedures, and in 1813 established, at Stockholm, the Royal Central Institute, where for nearly a century past, physicians from all parts of the world have made pilgrimages to become conversant with these methods of physical therapy.

In more modern times, and in our own country, S. Wier Mitchell, Graham, Taylor, and others, have applied these movements to theraeputics, and have been the means of the practice of massage passing largely from the hands of rough and ignorant empirics into those of educated physicians.

By a careful application of its methods to diseased states, it has been raised to its proper dignity as a therapeutic measure, and placed alongside electro-therapy, photo-therapy, hydro-therapy and dietetics. Massage, as a scientific agency, possesses certain curative powers, and, when properly applied, definite physiological results may be expected. To obtain these results the treatment needs to be given by a physician well versed in the art, or given under his direction by a masseur thoroughly trained in the technic of massage, and acquainted both with the anatomical structure and physiological workings of the human body.

Now the life of the body is contained in the blood; each living cell of the many billions composing the body selects from the blood stream the

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pabulum best suited to its growth and repair. This would necessitate the production of a quality of blood containing those elements best adapted to the varying needs of the individual cells. In the differentiation of the cells of the body we have resulting nails, hair, cartilage, nerve, bone and muscle, each demanding of the blood those elements best suited to its own particular needs.

The essential element of inorganic life is the crystalline structure; the growth of such matter differs widely from that of organized life. The growth of a stone, for example, is by accretion; the process of gathering to itself matter of its kind, of adding to its volume, is from without. While the essence of organic life is the cell, the individual cell, with its protoplasm and limiting membrane, and its growth and repair are maintained by the process of intussusception; that is, from within. Each cell, bathed in its nutrient fluid, has ever at hand those elements, "the brick and the mortar," by which its structure is reared, kept in repairs, and reproduces its kind. This emphasizes the overpowering necessity of maintaining from the earliest moment of fœtal life until dissolution of the body composite, a constant rhythmatic equalized circulation of the blood throughout all portions of the tissues and organs of which the body is composed. Action is the very condition of life, and habitual action of the muscular system is nature's method of maintaining life by thus forcing along in their channels the lymph and the blood.

Note—(The ancients supposed the arteries to be filled with air—which was right to a certain extent—hence their names, which still cling to them.)

Exercise, to be of material benefit, must be taken daily, not exercise of but 30 per cent of the muscles, as is obtained in walking, but exercise of all of the muscles, as is obtained in spading, hoeing and in digging. But conditions of modern life are such that the majority of mankind can not lead the life of a husbandman, so in our cities there is need of adapting some system of gymnastics that will bring into play unused muscles. However, through illness or lack of training, there are those who can not avail themselves of even this system; massage here finds a place in building up the forces of the body, so as to prepare one to take exercise, or it may serve as a substitute for exercise.

In massage there is secured to the invalid the benefits of exercise without the usual expenditure of energy necessary to secure such benefits. In this way we conserve nerve force, a means of storing up energy in the nerve cell, for the patient, by conservation. Again, the brain and spinal nervous system draws its aliment from the muscles. The nutritive centers of the nerves are in the muscles. In other words, the nerves feed upon the muscle fibers. So, if the muscles are developed to proper proportions the nervous system will, more likely, be kept in normal tone. This is a recognized fact frequently made use of by the intelligent physician in the treatment of functional, and even organic diseases of the nervous system.

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Their patients are put through a series of active and passive movements which develop muscle, and, secondarily, increase nerve force. *Passive* movements having the advantage in this class of cases, as in active movements, in order to derive these benefits, there is a certain amount of energy, both muscular and nervous, expended, while in massage movements this nerve and muscle energy is saved to the patient.

Massage has proven to be a great aid in the treatment of valvular lesions and dilatation of the heart, and by massage we embrace those active, passive, assistive and resistive movements called "Swedish movements."

Massage reflexly influences vaso-motor nerve centers, and the vaso-dilators, acting over considerable surface of the body, will tend to diminish total blood pressure, and for this reason, massage has been used with such great success in these cases; and also when the heart is undergoing a strain, as in pneumonia and typhoid fever. In these diseases the increased leucocytosis induced by massage is highly desirable.

General massage causes a slight rise in blood pressure, quickly followed by a permanent fall of pressure, due to peripheral resistance being lessened through arteriole dilatation. Superficial massage causes a rise and deep kneading of the muscles causes a decided fall.

Stewart says, that "in cases of cardiac dilatation the area of cardiac dullness diminishes perceptibly during each administration of massage; that the cardiac sounds, the rhythm and strength of the pulse correspondingly improve; that the patient usually experiences a sense of comfort, and feels the better for the treatment; that repeated applications of massage bring about a permanent diminution of the area of dullness, with improvement of pulse and the patient's sensations." There is an equalization of the circulation of the blood stream by which the capillary circulation is improved, and, congestion of internal organs removed, massage supplements the heart force by the dilating of these surface vessels, and thus lowers blood pressure, and diminishes the pulse rate, when excessive.

Increased oxidization results through those chemical changes taking place in the tissues, by which food products are disintegrated and waste products oxidized. Through massage the blood is enabled to take up a greater amount of oxygen, by increasing the chemical changes taking place in the tissues. More heat is induced through both mechanical and chemical means, and often we have, through the increased nutrition, abolition of pain.

Through manipulation of the tissues, reflexes are induced which, through the nerve centers in the brain and spinal cord, are transmitted to other structures, especially acting upon the glandular system, thus increasing both secretion and excretion. There is induced a greater flow of the digestive fluids, of bile, and of urine.

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[Columbo, of Turin, through experiments upon animals and men, demonstrated that massage doubled the secretion of gastric juice, and increased the flow of bile, urine, saliva, tears, sperm and sweat.]

Undue nervous activity, as in chorea, hysteria, epilepsy, spasmodic affections, and in insomnia, are greatly benefited by massage. The muscular activity induced by massage suspends the nervous incitement by more blood being brought to the muscles and less to the nerves, the muscles being the counterpoise to the nerve centers.

The brain and spinal cord virtually have their peripheral ending in the skin. The smallest area measured by a pin point contains a matting of nerve plates and endings. These are connected through the nerves and nerve trunks with the nerve centers. The manipulation of the skin serves to originate impulses here which are transmitted inward to the centers. Hence, we have at hand a powerful means of toning up the nervous system through stimuli applied to these nerve endings. Sedative movements, as stroking, will induce repose and sweet sleep, while, on the other hand, percussion and vibratory movements serve to arouse and give tone.

In what manner does massage act, in a curative way, in diseased states? Take, for example, obesity, diabetes and rheumatism. There is a common etiological factor present in each of these states. All three have present imperfect or partial oxidation of food material. The muscles, liver and large glands of the body are furnaces. The oxygen, by way of the lungs, enters the blood stream, and with the food material is carried to the individual cell, where cell enzymes begin a series of oxidations by which the solid food elements are broken up into a liquid and a gas, carbonic acid gas, and water. The former is eliminated by the lungs, and the latter by the kidneys. In the above-mentioned diseases this cleavage of food is more or less imperfect. Carbohydrate food elements are imperfectly burned and deposited as adipose tissue or pass out as sugar in the urine. The proteid elements, particularly flesh foods, are imperfectly oxidized into uric acid and other bodies, and circulate in a crystalline form in the blood stream, blocking the capillaries in the joints, in the sheaths of the muscles or in the nerve sheaths, causing joint rheumatism, lumbago or intercostal neuralgia. Massage by increasing oxidation greatly benefits or cures these cases. After a treatment of this nature applied to the whole body, an analysis of urine will reveal greatly-increased solids, indicating more active metabolic changes and increased activity of the emunctories. A clear intellect, augmented powers of the entire body, a general feeling of well being, are among the symptoms noted by the recipient of a massage treatment.

It is a means par excellence of improving a feeble circulation, of stimulating the skin and of strengthening muscles. The blood of the anæmic becomes augmented by red-blood corpuscles, brought from the lurking places in the bone marrow, the spleen, and the liver, out into the circu-

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lation, where they increase the oxygen-carrying power of the blood, while leucocytes are proportionately increased, and so augment the phagocytic power of the blood, and also the power to regenerate torn tissue.

By the stimulation of the skin we supplement the work of the kidney and other organs of elimination; as the skin contains twenty-eight miles, or more, of sewer pipes, it is, therefore, capable of doing a vicarious work for the kidney, a great desideratum when the physician has to deal with an acute nephritis.

One important procedure of massage quite generally omitted or overlooked by the masseur, is that of *nerve compression.* Indeed, the extent of his knowledge is usually confined to compression of some of the branches of the facial nerve for the relief of toothache, or of migraine. He remains in ignorance of the vast field of usefulness open before him in a knowledge of pressure as applied to the posterior spinal nerve branches. Through these branches we reach the spinal nerve centers, and reflect an impulse along the anterior branches of these same centers which reach nearly all the viscera of the body. Indeed, all the organs of the trunk contained in the thorax, abdomen and pelvis can be reached through these centers. A brief pressure serves to stimulate, and a prolonged pressure inhibits these centers. We may relieve pain or hasten the flow of blood through an organ connected with these centers. A brief pressure, applied along about the second to fourth dorsal spine, will cause a quickened pulse-rate through direct stimulation of the heart, or the stomach can be filled with water, and by a prolonged two-minute pressure along fourth dorsal spine the pyloric muscles will be caused to relax and allow this water to pass into the intestines. A sluggish-acting liver or bowel can be stimulated in this manner, or a pleuritic, gastric or appendiceal pain can find instant relief through this method.

It is an invaluable aid in the treatment of colics and diarrheas of children, of giving relief in swollen glands of the neck, and of tonsillar swellings. It is a field that, through neglect by the medical profession and which rightfully belongs to the physician, has been usurped and preoccupied by the Osteopath.

Five minutes of massage will allow a fatigued muscle to recuperate better than twenty minutes' rest, and the power of the muscle can be increased three to seven fold over its last effort, by this length of treatment.

Dr. Graham says: "It is to be regretted that physicians do not oftener try their hands at massage themselves. They would be fully indemnified for their time and trouble. Furthermore, the benefit of their visit would be immediate, in place of mediate, as when it is the medicine prescribed and not the physician that does the work. French, German and Scandinavian physicians often apply massage themselves, without any thought of compromising their dignity. Non-medical people may become expert

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and skillful in the individual maneuvers embraced under massage, but they ought to have their efforts directed by a physician."

An ancient writer, describing massage, waxes "past-eloquent" in these words: "Perfectly massé, one feels completely regenerated, a feeling of extreme comfort pervades the whole system, the chest expands and we breathe with pleasure; the blood circulates with ease, and we have a sensation as if freed from an enormous load; we experience a suppleness and lightness till then unknown. t seems as if we truly live for the first time. There is a lively feeling of existence, which radiates to the extremities of the body, whilst the whole is given over to the most delightful sensations, the mind takes cognizance of these and enjoys the most agreeable thoughts; the imagination wanders over the universe, which it admires, sees everywhere smiling pictures, everywhere the image of happiness. All is followed by a delicious calm."—Graham.

Massage should be measured as our medicines are dosed, according to age, capacity and ability of patient to react to the same. One can easily overtreat, and cause fatigue, or treat unsuitable cases and do much damage, as has frequently been done, thus causing this most valuable therapeutic agency to be discredited and brought into disrepute.

The gynecologist finds a place for local massage as a valuable adjunct to usual methods in the management of subinvolution, chronic metritis, retroflection and other displacements due to adhesions, the sequelæ of previous inflammations of the uterus, its adenexa and surrounding tissue, gluing the organs together, retarding their mobility, and thus misplacing them; also in ovarian enlargement, when not of a cystic nature or not associated with tubal suppuration.

Let the physician and the surgeon familiarize themselves with the technic and effects of pelvic massage in such cases, and the result will be the performance of fewer ovariotomies, and a lessening of the number of desexualized women. While the general treatment may be left to the nurse, manual treatment, as applied to special organs, should be applied only by the physician.

Massage is a general tonic and reconstructive, it increases metabolism in all the tissues, toxic substances are set free for elimination. There is noted increased frequency of respiration, of body weight, of red-blood corpuscles. It relieves insomnia, prevents atrophy of muscles in paralysis, of benefit in tabes, augments the secretion of the kidneys through the increase of albuminoid poisons thrown off by the tissues. It acts by deterging parts of their morbid matter which traumatism has caused in fractures and dislocations and sprains, bringing the affected parts back to their normal state. In chronic diseases demanding stimulation, percussion causes an efflux of nervous energy and sanguineous fluid to the part. Vessels in a state of atony are aroused and become turgescent with blood. Massage is one of the most efficient means of increasing the activity of

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the skin. Metabolism is dependent upon circulation, and it is reasonable to suppose that the improved nutrition of the skin resulting from this treatment may induce so great a degree of vital energy as to enable the affected structure to successfully combat the morbid condition found in such chronic skin affections as ulcer, eczema, and psoriasis.

Recent cases of sciatica and muscular rheumatism are almost invariably cured by massage, while it is about the only effectual treatment in gout. It has its uses in hypertrophied tonsil, in headache and neuralgia, and, let the hay-fever sufferer take note that in the initial stage of coryza, manipulation of the bridge and base of the nose, and along the lower cervical and upper dorsal vertebræ (that area of the spine from which the nose is enervated) will dissipate this symptom with surprising rapidity.

By use of abdominal massage, we have a means of relieving congestion of the solar plexus, and in stimulating these great nerve centers of the abdominal sympathetic we accelerate the vital activity of all the abdominal viscera and benefit hepatic congestion, constipation and gastric atony. "We hasten portal circulation and circulation of lymph in lymph channels, absorption is stimulated, producing of gas diminished, and its expulsion encouraged." (This is of much value in dangerous distention of the bowels in surgical cases.)

Massage strengthens the abdominal muscles, increases intra-abdominal pressure, and thus aids in overcoming gastro-ptosis, enteroptosis and movable kidneys, and other prolapses, included under the general term of viscero-ptosis.

We but mention cosmetic massage for wrinkles, pimples, facial blemishes, cicatrices and baldness. From the foregoing are we prepared to answer the question of the place massage should occupy in modern therapy. The average practitioner of medicine, making reply to this question, is willing to assent that massage serves as a valuable *adjunct* to medicine. But, through a failure to acquaint himself with its physiological workings and effects, and to familiarize himself with the location and connection of the various reflex arcs of the body, he loses the opportunity of observing its powerful curative actions in disease. Armed with but *materia medica* the student of medicine, confident that he has in this a cure-all, separates himself from his alma mater, but soon learns that drugs have their limitations, that they are not sure antidotes to the ills of the flesh brought on by wrong habits, and without further temporizing adds to his armament electrotherapy and, perhaps, phototherapy; but as he becomes cognizant of the limitations of his field of usefulness, he gladly seeks for added forces wherewith to combat disease. His investigations, if sincere, will doubtless lead him also to a free application of the methods of hydrotherapy, and use of massotherapy and materiæ-alimentariæ, and soon learns that in these, supposed to be but mere adjuncts, he has found the very *pillars* of medical science.

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DEFECTIVE CIRCULATION, ITS SYMPTOMS AND CURE.

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[Written for the Medical Brief.]

Defective circulation shows itself by local or general signs, according to the type of the organs involved. These signs are most striking when the supply of pure arterial blood is temporarily cut off from the brain. Loss of consciousness when a person faints means that for the time being the brain is not supplied with fresh blood, which fact is well proven by the restoration which ensues when the head is placed low, and the blood returns to the brain.

More serious is the case when there is a breaking-down of the circulation, as when a blood-vessel becomes ruptured or stopped by a clot in some particular part of the brain. This causes a loss of power to move those parts of the body controlled by that area of the brain in which the circulation has failed.

A like process may go on in any part of the body, but the effects are not so striking, because the organs, unless the lesion be in the heart, are not so important. A failure of circulation in the lungs leads to shortness of breath, because, without regenerated blood, we can not breathe. A failure of circulation in the stomach leads to indigestion, as is strikingly shown by the arrest of digestion when the surface of the body is chilled after a meal, and the blood is drawn to the skin in an attempt to keep the body warmed. If the circulation in the heart muscle is stopped there results instant death from an arrest of the heart.

In the same way every organ of the body is dependent upon a competent circulation for its proper functioning. When the circulation in the hands or feet is impeded, a person suffers from the sensations of cold and numbness and tingling.

The efficiency of circulation in a given individual is in a great measure an index of the age of that individual. We grow old in two ways: according to the indications of the calendar, and according to the indications of our circulation. No truer statement was ever made than that of the brilliant George Cheyne who postulated that: "A man is as old as his arteries." This is recognized by all those who give thought to the maintenance of health, and, in fact, every effort that is made with a view to promote health and regain the strength and vigor of youth has something to do with the circulation.

When middle life is reached, those who would live out the traditional three score and ten, and still be healthy, must give much care to those organs which, at this period, are perhaps the most vital, namely: the heart and blood-vessels.

While we are spared many of the things that formerly shortened our existence, such as epidemics, impure food, badly-heated houses, and the

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hardships of travel, modern life has brought us a certain intensity of mental activity that in a very insidious way undermines the health through the circulation. This can be charged to those nerves which cause the blood-vessels to be so unduly contracted that there is great obstruction to the flow of blood everywhere in the body. This obstruction is often spoken of by physicians as "high blood pressure," and leads to damage of the arteries so that almost any part of the body may become defective in circulation. The amount of excessive work thus enforced upon the heart is so great that strain and hypertrophy result.

At first, attention was drawn to this subject only when there was some circulatory disturbance in the brain, and the person affected was spoken of as having paralysis, but now we know that the same thing may happen in other organs, such as the liver, the kidneys, and the spleen, consequently, when we find people with defective circulation due to hardening of the arteries, suffering from indigestion, etc., the relation of cause to effect is apparent. These persons often suppose that they are suffering from some simple disorder, but their condition never improves until the circulation is restored.

The cure of defective circulation depends upon a proper regulation of the work of the heart and blood-vessels. This can be done only when we recognize that the heart and circulation are very much influenced by the nervous condition and by the diet.

When a machine fails to do efficient work, the first thing that the machinist thinks of is to get at the part that is not working well, and give it a good oiling, and consequently he has a right to expect of the machine greater working power as a result of his management. In the management of the circulation, the first thing we think of is to dilate the blood-vessels, and this can often be accomplished temporarily by certain drugs which enlarge the arteries by relaxing their walls. Then we secure more power by improving the condition of the heart, or, if we think that the heart has latent power enough that is not in use, we give it a stimulant.

There are certain methods of management that have a marked effect in improving the circulation, even when the organs are defective. These at first include the proper use of drugs as the tools with which we set the mechanism right; then the removal of nervous influences, such as may be acting to the detriment of the patient, and lastly, the institution of suitable exercises and restricted diet, such as experiments have shown to be beneficial.

There has been too much prejudice of late years against drugs, but there are cases in which you might as well tell an engineer not to use oil on his engine as to tell a physician not to use drugs. When the adjustment has once been accomplished, and the patient has learned how to take care of himself, these particular tools may not be necessary.

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Nearly every individual under modern conditions of life reaches a period when the circulation must become a subject of careful attention; and, if one is on the lookout to apply the proper measures early instead of late, it is possible to escape much of that invalidism in older people that is so distressing to their friends as well as to themselves.

To illustrate: let us recite the story of a typical case of grave disorder of the circulation leading to breakdown. The subject is a man of mental strength, who is devoted to some absorbing occupation which places him under responsibility and offers him many causes for worry. Such a man, unmindful of the fact that he is over fifty years of age, and that the machinery of the body no longer has the recuperative power of youth, continues his work unceasingly. Under these circumstances he develops an over-activity of that nervous mechanism which should be just active enough to maintain the circulation in an even balance. The mind-strain overflows, as it were, and, involving the whole body, manifests itself in increased tension of the circulation. There is a contraction of the blood-vessels, causing a resistance in them which makes it very hard for the heart to keep the blood in proper circulation. The heart becomes enlarged in nature's effort to meet the demand upon it. Thus there is established in the arteries a constant degree of blood pressure that damages the kidneys and vessels.

As the brain in such a man's body is an organ of great activity there is apt to develop some slight tendency to inflammation in the already damaged blood-vessels, and a thrombus is formed, which stops the circulation in that particular area.

The man has probably been going on all this time unconscious of the storm that is gathering within himself and threatening his destruction; and his first warning is a sudden helplessness of an arm or leg, or the loss of his power of speech.

We are too apt to look upon a stroke of paralysis as an act of Providence, and to overlook the disorder of the circulation that preceded it. But even when there has been so severe an accident, a great deal can be done that should have been done before. Means must be taken to counteract the vicious nervous force that caused the irregular circulation in the first place. This is accomplished, after the patient has recovered from the first shock of the accident, by physical exercise which diverts the nervous energy from the blood-vessels to the muscles, and by the administration of remedies that dilate the blood-vessels or calm the action of the heart. Then means must be applied to restore the integrity of the heart and blood-vessels. Iodide of soda has this property. Even after the damaged circulation is repaired and is functioning properly, the whole nervous system of such a patient needs to be restored by weeks of careful effort on his own part as well as on the part of his medical attendants.

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Another type of defective circulation is one which, while not leading to actual damage of the brain, gives many disagreeable symptoms. Such a patient, past middle life, who has had no difficulty in maintaining his weight, suffers from high arterial tension that has developed as already described. It shows itself in attacks of headache, particularly at night; in nervousness and a tendency to worry; and, most striking of all, in a change of disposition so marked that a mind, which was formerly quite amiable, becomes irritable and depressed. Sometimes there is also epistaxis, and a tendency to attacks of acute indigestion. The kidneys show an increase in secretion of the urine, which is lighter in color than normal. If such a patient is neglected, or if he undergoes any severe physical strain, the heart is damaged, and he suffers from shortness of breath, and perhaps dropsy. In the cure of such a case much the same measures are necessary as in the other—the difference being that this patient has many subjective symptoms preceding damage to the brain.

Both these instances of defective circulation have to do in the first place with an exaggeration of the action of the heart and blood-vessels.

Defective circulation, due to feeble action of these same organs, is not nearly so dangerous or important, but is often equally disagreeable. A person who suffers from weak action of the heart, and from relaxed blood-vessels, is defective in vitality, and is likely to be sluggish in mind and body. Such a person complains of sensations of cold, his organs do not arouse themselves easily to normal activity, and the function of digestion is badly performed.

When we have simply to deal with a lack of tone in the circulation much is accomplished by exercise and training, and the same forces which in other people tend to overtone with advancing years, can bring these patients up to normal only so that relaxation of the circulation often disappears with the disappearance of youth. Feeble circulation in people who have had health in youth ordinarily indicates real disease and not merely functional relaxation. The most dangerous condition that physicians have to deal with is that of feeble circulation developing in those who have suffered for a long time from over-activity of the circulation, as described above.

When sanitarians and all those who make a study of the prolongation of health and happiness have finally succeeded in pointing the way to the removal of all those diseases that are due to bacterial exposures, bad air, and bad hygiene, there will always remain the problems of defective circulation. These are not dependent upon external things, but upon misguided activity of the organs of the body, and they can be prevented only by so regulating the activity of the mind and body that the blood current shall ever flow strong and even without a force so great as to cause damage, or with a force so small that some part suffers from lack of proper nourishment.

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OUT OF THE DEAD, DEEP NIGHT OF JAPANESE HEATHENDOM.

By Albert S. Ashmead, M. D., New York.

[Written for the Medical Brief.]

In your December number I note an article entitled "The Jap," also some remarks on the Japanese in the article by Dr. Houser. May I express the opinion that in both these comments, the trend of thought is correct? According to my own observations and analysis of Japanese character, there is, indeed, cause for alarm throughout Christendom, by reason of the success of Japanese Paganism over Christian Russia. In a book, which will be published on the Pacific Coast as soon as war is imminent between Japan and the United States, I have thoroughly dissected the evil spirit of Japan. That book has already been revised by the political authorities of California. The title is "His Satanic Majesty of Pagan Japan." This title does not refer to the Emperor, Mikado Mutsuhito, but to the devil spirit or Samouraism love of fighting, inbred in the race.

In an article published in the *New York Herald* recently, and entitled "Japan Prepares for War with the United States," in a quotation of and remarks from the *Echo de Paris* concerning Mr. Nakahashi Tokugoro's allusions in the *Revue des Deux Mondes*, of Japan, to the "Empire of the Mikado," there is entirely overlooked a very important point, which is always considered by the Japanese mind in its ratiocinations. It is this:

The empire of the Mikado to a Japanese means spiritual empire, and not a mere material or temporal empire. For many centuries, while the Mikados (Heavenly Gates) were isolated in their Holy Seclusion, behind the Devil's Gate, at Kioto, there reigned mere temporal rulers, the Shoguns (great generals), at Tokio. In 1867, the beginning of the Meiji era, the Sat-Cho (Satsuma and Choshiu provincials of high degree), a political ring, overthrew the Shoguns and brought the figurehead of the empire from his sacred isolation at Kioto.

He is the religious head of the nation, typifying the Bushido (war spirit) of the people, that is all. He is not Emperor—a word the Japanese do not know, although they use it to deceive Westerners. A Mikado is Tenno (son of heaven or God). He never dies, but hodzurus (translates). He is God in man's form, and as such can only reign in the spirit of the nation.

The real temporal ruler of the Empire of Japan is that Sat-Cho, a political clique, and the Mikado is only a puppet king. His mentality is of a very low order; in fact, all the high nobles of Japan under the old order of nobility were rather effeminate, if not really imbecile. The Mikado is no exception to this category. Therefore he is easily handled politically by the ringsters, whose only aim is to satisfy Samouraism, or Bushido, the war spirit of the nation, handed down to them from the

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time of Krishna, god of war, of Brahminism, even at the beginning of protestant Buddhism.

This is the curse of the Japanese people, that love of fighting, and besides, there is the worship of heroes. And how are heroes to be made in a Japanese point of view save by war? Samouraism, before the disestablishment of feudalism, in 1867, was satiated by wars between the Daimios. Each province, or high-class family's servants (Samourai), would fight with the next ones. But in 1867 Samourai were nationalized into a central army, or fighting force.

This spirit of war, the true soul of Japan, will never be willing to remain in barracks for any length of time. It soon demands a new war. Where will a war be found to appease it by that ring of political tricksters called Sat-Cho, except in a foreign war? Thus it will be ever.

After they have fought America they must find some other country to make war upon. That next, in all probability, will be Holland. For Japan must have the Dutch East Indies. And so it will go on.

But what I write these facts for, especially, is to point out that the 'spiritual empire' of that pagan 'ruler' is what we have most to dread. It is that which threatens us already in our Pacific States. Paganism of the Mikado is already getting a foothold upon our Christian European and American shores. This is what we must guard against most.

The war that is on in the world today is that between two civilizations, paganism and Christianity. Until Japanese have been taught by defeat that their Emperor, as we call him, is not a God or holy avatar, there will be endless wars on the part of Japan. We must put down her unholy paganism and then there will be peace of Christianity. Which will win, paganism or Christianity; the god of war (Krishna) or peace and good will to men (Christ)?

Another point is, that in all history and tradition as far back as early Egyptian times, a mystic talisman, sometimes a stone, very often a vessel, was common property. The Grail has been referred back to the cup found in Benjamin's sack, when Joseph reigned under Pharaoh. The prince of the Persian genii had a magic cup or vessel, by whose virtue he and his angels wrought their prodigies. And very often this mystic, talismanic cup is said to contain blood, the price of atonement in all ages. The word *grail* is sometimes said to be a modern form of the Keltic word *graal*, meaning a dish or vessel. It is also known that the Troubadours played upon the Provençal words, "sang real"—the royal blood—in their poetic desire to get a good form of apostrophe, which, in their day, naturally took a religious twist. They wanted a "sanctus," so they made over "sang real," into "san greal" or "Sangreal"—Holy Grail—and the designation, san greal, is a well-known form of the title of the mystic chalice.

In Japan, the whole mysticism of the Mikado's descent from his heavenly ancestress, the Goddess of the Sun, is exemplified in the holy emblems

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of the Mikado, formerly kept in the throne room at Tokio—the crystal, the mirror and the sword. These are the very foundation of government in Japan, and are the precious tokens of religious faith, like our communion service or drinking of the blood of Christ and eating of his flesh. It was the tenth Mikado who transferred these emblems of the Mikado's heavenly powers to the Temple of the Sun Goddess, at Isé. Here went the Mikado, and Togo and Oyama and Nogi, and all those other Japanese pagans, at the close of the Japano-Russian war, to report upon their achievements in the Mikado's holy cause to his ancestors at their shrine.

The crystal was obtained by the grandson of the goddess at the bottom of the sea. It gives to every Mikado power over the seas. By looking into its depths he can know what is going on throughout the world, north, south, east or west. It gives him omnipotence on the sea, and omniscience. The mirror was handed to his first earthly ancestor by the goddess of the sun when her light first appeared. As an emblem of imperial power, Tensho-go-daijin gave it to Jimmu Tenno.

It was a round mirror, and was accompanied with a sword, which she had plunged into the sea, and from whose point dripped the sediment from the bottom of the ocean, which formed the dry land, over which her descendants were to rule. "Keep this mirror, my picture, and thy dynasty will endure as long as heaven and earth," she said. It reflects upon her descendant all the glory and enlightenment of his ancestress. *Fac similia* of these precious tokens of his ancestress are always kept in the palace at Tokio. The real originals are deposited at Isé. The tenth Mikado, who reverently put them in the holy of holies, built that temple expressly for the purpose, at Yamada, in Isé. This temple of the sun goddess was from that time sacred above all other temples to the whole race; the Mecca, to which thousands annually make pilgrimage, and all rulers and heroes must go there to express their allegiance at every event.

The Mikado says to his people, "I stand between Tensho-go-daijin and the people in Time. And I rule according to the will of the gods, carried back ten thousand years, before Jimmu Tenno (first Mikado) to the time when my divine ancestors laid the foundation of the earth."

All the spirit of the nation is built about this myth. And Bushido, the war spirit, is focused upon it. The blood of the nation must be shed in His cause.

A great deal of poetic nonsense has been written about "Bushido, the Soul of Japan," by the newspapers, and by Dr. Inazo Nitobe, of the Imperial University of Kyoto. The last has said, regarding this *worship* of the sword by Japan, as follows:

"The swordsmith was not a mere artisan, but an inspired artist, and his workshop a sanctuary. Daily he commenced his craft with prayer and purification, or, as the phrase was, 'he committed his soul and spirit into the forging and tempering of the steel.' Every swing of the sledge, every

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plunge into water, every friction on the grindstone, was a religious act of no slight import. Was it the spirit of the master or of his tutelary god that cast a formidable spell over our sword? Perfect, as a work of art, setting at defiance its Toledo and Damascus rivals, there was more than art could impart. Its cold blade, collecting on its surface the moment it is drawn the vapor of the atmosphere; its immaculate texture, flashing light of bluish hue; its matchless edge, upon which histories and possibilities hang; the curve of its back, uniting exquisite grace with utmost strength—all these thrill us with mixed feelings of power and beauty, of awe and terror."

But the real significance in the worship of the blade in Japan is Zoroastrian rites, in its blending. As a weapon of war, its symbolic origin is in the Mikado's descent from the sun goddess.

All the Persian element in Japanese legends shows this first Japanese cosmogony originated in Babylon. The religious ideas of Persia and Mesopotamia had a powerful effect on India, and form the basis for the mythology and cosmogony of Brahminism and Buddhism. Ancient usages of China and Corea worship the god of fire. Persia and most ancient Chinese religions were merely branches of an ancient religion of Chaldean civilization, and which became identical with that of Babylon and the first chapter of Genesis.

Arguments for those who contend for race equality are that (1) certain members of other races master the sciences about as easily as white men; (2) certain civilizations seem to have sprung up independently of white men's influence; (3) western civilization seems to have started outside of Europe; (4) our civilization, properly so called, is not more than four hundred years old; before 1500 we were not superior to Asia.

(*a*) The first of these arguments is simply Columbus' egg. The merest savage can use the telephone, bicycle, Mauser rifle. Could he invent them?

(*b*) The only civilization of importance that has hitherto been regarded as independent of Europe is that of China, of which that of Japan is an offshoot. Now, Terrien de Lacouperie has shown that civilization was introduced in China by a blue-eyed, yellow-haired tribe, moving from the Tamir basin eastward into the Valley of the Weiho, where they laid the foundations of the Chinese empire. In other words, the Chinese have simply kept, almost unchanged, what they received from the west some five thousand years ago.

(*c*) The oldest known civilization is that of Chaldea, from which that of Egypt was derived. Who were the early Chaldeans? Their language, deciphered by a miracle of ingenuity, has been compared to Finnish, which would make them akin to a European race supposed to have been originally long-headed, blue-eyed and fair-haired, and from the primitive form of whose language the proto-Aryan language is, with good reason, assumed to be derived. The oldest skulls from Chaldea, found by Hilprecht, were

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declared by Cope to be typical Aryan skulls. There is thus, at least, some ground for the supposition that the originators of Chaldean civilization, including our alphabet, were either Aryans or derived from the same stock from which the Aryans branched off. If Terrien de Lacouperie is right in assuming that the blue-eyed and fair-haired invaders, who carried civilization to China, came from Chaldea, this, of course, would lend additional probability to the belief that the primitive Chaldeans were Aryans.

But there is no need of claiming the origin of civilization as a special Aryan achievement. Sergi and Much, starting from different standpoints, have shown that, with the exception of the Alpine race, now existing only as an alloy, all the peoples of Europe, North Africa and Asia Minor (probably also Syria, Palestine, Mesopotamia and Persia, the latter, of course, including the high-caste Hindus) sprang from a common source in comparatively recent time. Thus, whether the early Chaldeans were of the type of the Scandinavians or of the South Europeans, they were, doubtless, of the same family as these two. It is hardly necessary to say that the term European, as here used, includes the inhabitants of nearer Asia, who, by physical characteristics, language and history, are identified with Europeans, and sharply separated from Eastern Asia. Hindus and Afghans, uniting with Mongolians against Europeans, would be traitors to their own race.

(*d*) It is not true that the science of the West, prior to 1500, shows no superiority over the East. Read Aristotle, Strabo, Plato, Euclid, any of the great Greek and Roman writers on scientific subjects, and you find them imbued with the same spirit of inquiry and criticism that animates the modern scientist, and of which not a trace is found elsewhere. As for literary products, it is, of course, well known that prior to Shakespeare there is nothing to compare with the Greek masterpieces, unless it be certain parts of the literature of the Hebrews, who, of course, were and are a white people like ourselves.

"Bushido," in literal Chinese, is the "way of the executioners," and those who were eye-witnesses of the tyranny of the Samourai in the last years of the Bakufu—amply illustrated in Viscount Hayashi's touching story, "For His People"—will not regard the name as altogether inappropriate. "Bushi," in Japanese, means soldiers, and "do," the way of. The Bushi (a Japano-Chinese, but not Chinese form), or Samourai, were neither knights nor knightly; they were "followers," "servants," merely; many, if not most of them, petty officers of a man of influence; few of them for two hundred and fifty years possessed of any military experience whatever. They were permitted to wear a sword, to fight for their master, and a small sword with which to kill themselves in case of failure. They were really hired assassins, outlaws, who must kill themselves for their deeds on occasion. Jiü-Jitzu was instituted by the lowest blackguards of the race, especially to protect themselves against the low servant class,

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who were allowed to carry a sword. No gentleman in Japan ever practiced Jiu-Jitzu.

It is the spirit of blood-thirst which must be recognized as prevailing in the "soul" of Japan. According to Japanese measure of moral evolution, such blood sacrifices, in a master's cause, were not crimes. Even in the seventh century of our era they committed crimes of which we of today can not conceive as human. According to the morality of that bloody past their acts were considered as just. Then these people buried alive all servants of a dead master. This was not crime to the reasoning of the time, but quite proper *religious* sacrifice; the judicial operation of communal morals. In the same way, down to 1867, or the beginning of the present Mikado's reign, the Meiji or "enlightened" era in Japan's history, what was called "roninism," or voluntary outlawry by individuals for the purpose of committing an outrageously bloody deed, was perfectly right if the act was accomplished; but if failure resulted, or it was done bunglingly, incompletely, then it was deemed *crime*, to escape whose penalty by the master, the "moral law" required that harakiri be performed. This bloody nimbus crowded the family with honor, and saved from confiscation to the state the suicide's property. All this was atavistic, and in spite of Buddhistic commandments against the killing of animals or taking life generally. What is man's meat at a time of human history is his poison at another. Thus it always was and ever will be, world without end, in the circling cycles of moral and intellectual development.

Japan is six thousand years in moral evolution behind the monotheist. The Japanese blood-thirst belongs to a chaotic moral past; they fought first for their god, Phallus, alive today in the Shinto religion, at Isé Temple, the right of sexual domain, before Hebrews knew circumcision, and when men cut off their foreskins and sent them to the leader as an acknowledgment that they were his servants, and that he had power over their females. This sexual domain is still existent in the Emperor's household. He has every right over the female spirit represented by fertility in descent from the sun goddess. The prostitute quarters at every Shinto temple, where children must be produced, is merely obedience to the divine right of the Mikado.

Communal (moral) requirements, or penalties on earth, govern men's actions. Most persons are moral sexually, because they fear social ostracism or disease, and for no other reason. Japanese are "moral" sexually, in accordance with the teachings of their Mikado's past, and their love of bloody war is "moral," in accordance with the people's belief in the holy origin and spiritual destiny of the Mikado, "Whose dynasty will endure as long as heaven and earth."

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THE DIFFERENT CLASSES AND THE DIFFERENT CAUSES OF PULMONARY CONSUMPTION.

By Fl. Montgomery, M. D., Micanopy, Fla.

[Written for the Medical Brief.]

Some wise man has truly said that "every man, instead of being a separate personality, is a compound of his ancestors, plus the changes produced by the effects of his own life upon himself." This is a fact to be held in view in determining the cause and treatment of all diseases, particularly the cause and treatment of pulmonary consumption. This disease is usually looked upon as a disease of the lungs, when in reality it is not a disease of the lungs in the sense of being local or limited to these organs. It neither originates in the lungs, nor are the lungs the first to manifest its presence. Pulmonary consumption is a progressive dyscrasia brought about by certain conditions of the blood. In its earliest stages it affects every part of the system alike. The presence and progress of the disease is marked by a low, stubborn, daily recurrent, remittent fever, usually quick on, quick off, and seldom or never very high. This fever is often mistaken and treated for a malarial remittent, because a slight chilly sensation often precedes a rise of fever. A gradual wasting of energy and vitality ensues, without being confined to any particular part or particular organ, but there is a tendency to and a final culmination in the decay and dissolution of pulmonary tissue. Because of this latter continuous and distressing manifestation, consumption is thought of, spoken of and generally looked upon as a disease of the lungs exclusively.

There are two separate and distinct kinds or classes of pulmonary consumption which I will denominate by the word class. The cause of one class is different from the cause of the other class. The cause of one class, which is the class that embraces the greatest number of patients, because posterity is all the time becoming more numerous, is the generation, growth, maturity and dissolution of tubercle. The proper designation of this class is tubercular phthisis pulmonalis. The terms tuberculosis or phthisis tuberculosis may mean pulmonary consumption or it may not. Tuberculosis often does not involve the lung.

The proper designation of the other class of pulmonary consumption is phthisis pulmonalis. This form or class of consumption is not caused by tubercle, but is dependent upon one or more parts of three groups of causes which in importance and frequency is in the order here mentioned. I say "groups of causes," because what will bring phthisis pulmonalis upon one person often has no effect towards bringing it upon another person. These causes are: First, the effect of present or former illnesses. Second, impaired assimilation and nutrition because of inefficient digestion or altered hepatic or renal functions. Third, irrespective

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manner of life, unsanitary occupations, habitats, restraints or surroundings. A tuberculous person may be embraced in this class and die of phthisis pulmonalis without the development of a tubercle.

Tubercle is an accretion by accession of substances from the hæmic plasma or blood serum. Its course and action is either to form a cheesy degeneration of tissue, or to gradually soften and excite suppuration in proximate lymphoid and other surrounding structures. This suppurative matter, by devitalizing adjacent tissue, burrows an outlet. If the tubercle has been formed in the lungs, the outlet will be through the lungs, and the vacua left will continue to encroach upon adjacent tissue, and thus enlarge, until the oxygen transmitting power of the lung is lowered to a point where fatal carbonization ensues. If the tubercle has been formed in the glandular system, particularly the lymphatic, it constitutes the disease known as scrofula. If in the larynx, the dyscrasia is rapid; hectic fever early develops and runs higher than any other tubercular fever, causing rapid carbonication by destruction of red blood corpuscles and the death point is reached often before the physician understands the true nature of the disease. Laryngeal tuberculosis often results in death within a few weeks after hectic fever sets in. If the tubercle is formed in the mucosa of the alimentary canal, it constitutes intestinal tuberculosis, which is an exceedingly fatal form of the disease.

Tuberculosis, in whatever form it may manifest itself is the result of inheritance and is transmissible from parent to offspring. This accounts for tuberculosis being on the increase all the time. The posterity of tubercular parentage is, all the time, becoming more numerous, hence the development of tuberculosis is more common. By inheritance I do not mean disposition or diathesis which may be an easy prey for the development of tuberculosis when subjected to outside causes, but I mean that the tuberculous person inherits, either from immediate or remote ancestors, a peculiar hæmic plasma, whose generic induction and special character converge to the inception and accretion of tubercular matrices. These matrices, being the nuclei from which the tubercle results, may find lodgement in any part or organ of the body. These, slowly, very seldom rapidly, but steadily, draw from the fluids around them for their development into tubercle. Hence, the posterity of tuberculous ancestry, by reason, so to speak, of the sickness of their blood serum, are prone to tubercle "as the sparks are to fly upward." They are unavoidably tuberculous, although they may never know it during a long lifetime, so slowly may the processes of accretion, maturity and softening ensue. No person has, and no person can have tubercular phthisis pulmonalis unless his hæmic plasma or blood serum is of that generic character, inductive to the formation and development of tuberculic matrices. This distinctive character of blood serum is not acquired nor brought about by contagion, but it is an inborn individual quality inherited from immediate or remote

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ancestry. This is tubercular phthisis pulmonalis. Phthisis pulmonalis is entirely a different kind, form or class of pulmonary consumption, and is not caused by tubercle. It has its inception in a dyscrasia of the system brought about by one or more parts of three groups of causes heretofere mentioned. The onset of this form of consumption is sudden and its course is rapid. A cold is often cited as the first symptom. Staying too long in an overheated room, or too long in a cold or damp room, is often a potential factor in this disease. The disease you have heard called galloping consumption belongs to this class. In tubercular phthisis pulmonalis, the onset is gradual, often extending through a long period of time, and its course is slow. A person often has tubercular phthisis pulmonalis an average lifetime without serious inconvenience. We know of old people who have been consumptive all their lives, still they have been able to attend to all ordinary business. There has all the time been an expectoration of necrotic tissue, but the accretion, development and softening of tubercle has been so gradual that the reparative functions have been able to keep the loss fairly well replaced. The generic character of the hæmic plasma of these people is weak in its tubercúlic prolificacy.

Phthisis pulmonalis is neither inherited nor transmitted to offspring any more than any other physical condition or organic weakness. The necessary dyscrasia or low state of the system for its development, must be at a point where any sore, even on the outside of the body, would be slow to heal, and much more so would a sore in the lung be slow to heal, where venous blood is the principal blood supplied and where the irritation of alternate contractions and expansions are all the time going on. This class of consumption being acquired by an irrespective life or resultant from unsanitary conditions already mentioned, may come upon any person, tuberculics not excepted, whose system reaches that state of vitiation.

Sanitary improvements of homes, cities, countries, factories, prisons, indeed, all places where people stay, especially keeping rooms comfortably warm, but not too warm, have a wonderful tendency to lessen this class of consumption. While, aside from making conditions generally more healthful, these sanitary improvements and precautions have but little to do with lessening tubercular phthisis pulmonalis, because this class of consumption is handed down from ancestry to offspring, like weak kidneys, weak heart, weak eyes, nervous irritability, and almost countless other physical conditions and likenesses. Whether consumption is of one class or of the other, there is a point reached in the progress of the disease where the manifestations are so similar as to often mislead the medical attendant, for instance, more intense fever, purulent expectoration, rigors, profuse sweats, weak, excited pulse, pink cheeks, swelling of the feet and ankles, etc.

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There are, however, many differential symptoms, among the most prominent of which is that the major clicking or crepitation is on inspiration from constricted tubules in tubercular phthisis pulmonalis, while the major râle is during expiration from catarrhal tubules in phthisis pulmonalis. The sputum of both may or may not contain the bacterium known as tubercle bacilli. It is a prominent feature of our present-day teaching that if we inhale, drink, eat, absorb, or in any other way get tubercle bacilli into our systems they will cause pulmonary consumption. A great deal of our literature, medical dictionaries, published since the days of Koch, and some text-books of recent issue, tell us that tubercle bacilli are the cause of consumption.

The minds of many men, even intelligent men, are gregarious, hence follow, repeat and believe without any knowledge or investigation of their own.

Whenever there is decomposition of nitrogenous and albuminous matter there will be the production of filiform bacteria. This decomposition is all the time taking place where there is rubbish, warmth and dampness. Hence, a person does not have to go into the presence of a consumptive, nor come in contact with their air-dried sputum, to inhale tubercle bacilli. All organic change, whether putrefactive or vital, produces bacterial life. And the bacteria, according to its origin, will be motile or passive. For instance, in urine freshly secreted by normal kidneys, there are no motile bacteria. If this urine is injected into an animal it will produce no dyscrasia. Put this urine into a vial and keep it next to your person for forty-eight to sixty hours, and you will find it filled with living, active bacteria, the product of putrefactive change. Inject this urine into an animal and it will produce a dyscracia, so will any cultures of bacteria grown from anything in process of putrefactive change. A man's system can be medicinally treated until his urine will not decay in any reasonable length of time. No living bacteria will be generated within the time above mentioned, and this urine, if injected into an animal, will produce no perceptible dyscrasia. Medicinal influence has delayed putrefactive change. Medical influence can also forestall the accretion of tuberculic matrices. When this is done we place tubercular phthisis pulmonalis under our control. We will now take an example of vital organic change.

As I have just stated, all organic change, whether vital or putrefactive, is potential to a bacterial production, which is not only natural to, but a part of the process. There are no bacteria in a sound egg, and there is no putrefaction in a sound egg during the process of incubation. But break a hen's egg on the fourth day of incubation, examine the fluids, and the little blood streaks that will then have commenced to form, with a lens of high power, and you will find them teeming with living, active bacteria. Examine another egg on the eighth day, and another on the twelfth day of incubation, and you will find the same thing. These bacteria are the

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product of vital organic change. Inject this fluid into an animal and it will produce no dyscrasia, but rather serve as a nourishment. Examine another hen's egg on the twentieth day of incubation, and you will find that the previously-existing millions of bacteria have all disappeared. They have served the purpose for which nature produced them, which was that of formative material for the young fowl. You may liberally feed the hen germicides or what you please for any length of time before the egg is laid, and still during incubation bacteria will be formed, because it is one of nature's laws that bacteria must be generated by vital organic change, and it can not be prevented, except by the destruction of the resultant organism. I have examined eggs of different kinds of fowls, serpents and crustacea, and have found no exception to the generation of bacteria during vital organic change. I am satisfied it is so with all eggs, those from which we spring being no exception to the rule. Hence, if there were no bacteria, we ourselves would not be in it. These experiments are simple, but they show that medicinal action can stop degeneracy, while the normal is not interfered with short of the destruction of the resultant organism.

Tubercle bacilli have always been with us, and always will be as long as warmth, moisture and atmosphere exist. It is nature's work, and nature will attend to its own business. It is not and never will be productive of the greatest good to waste time trying to destroy that which nature, compelled by natural law, is all the time producing. If we ever cope with consumption it will be by qualifying ourselves to cure it. The well man, although a tuberculic, shows no symptoms of consumption until the dyscrasia is upon him. We then have the disease to fight and not to prevent. The patient looks to his medical attendant for help, and to fortify him against fatal ravages of the disease is the doctor's part on the programme. The intelligent mariner does not try to control the wind, because nature alone does that. He loses no time trying to adjust the wind to his sail, but he bestows his energies on adjusting his sail to the wind. This is his business. He thereby reaches his port in safety. So it will finally be in the treatment of consumption. The inclination to look upon that which it is the part of carbonized blood and broken-down tissue to produce, as being the cause of the disease, will be changed. Such an opinion will be regarded as no more rational than was the belief of Scholastikos, that were it not for the branch the spring could not exist.

In the treatment of consumption we have to deal with, first, a constitutional dyscrasia; second, with irritations and ulcerations continually bathed in carbonized blood, which is also deficient in hematine. There is nothing similar to it in all the system. Again, if it is tubercular phthisis pulmonalis the disease will be influenced by the degree of heredity. If both parents are lineal tuberculics, although the disease may never have developed in either of them, the heredity in their offspring may be intense, and the

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disease develop early in life. If one parent is a lineal tuberculic and the other not, the heredity will be milder, and, if at all, the development will be later in life. The degree of heredity not only influences the earliness of the attack, but the gravity of it also.

The cell-genesis of individuals differs. Hence, the proliferative functions, the susceptibilities and the demands differ. On this account the practice of medicine never can be reduced to a definite science. There never can be fixed rules, fixed courses, and fixed limitations for the treatment of the same disease in different individuals. Also, there are nearly always wayside conditions which are neither a part of, nor resultant from the disease, that need to be considered. Consequently, no one treatment will apply equally alike, and be beneficial to all. In the treatment of consumption, as well as in the treatment of all other diseases, every physician, backed by his studies, his investigations, and his common sense, must be and will be, to an exceedingly great extent, the master builder of his own successes. If a physician, without being certain of the eligibility of so doing, accepts and contents himself with the ruts already made as *his* pathway, he deprives himself of the therapeutic power which it is his right to have, and his duty to attain.

The indispensable requisite for the cure of tubercular phthisis pulmonalis consists in the medicinal treatment of the blood serum so as to produce such alteration as will do away with further accretion of tuberculic matrices. Where there is excess of carbon in the blood supplying the part affected it is as impossible to prevent the maturity and softening of tubercle already formed as it is to prevent the maturity and dropping of an apple on a healthy limb. And if the quantity of tubercle already formed in such locality is so great that the process of softening will destroy more tissue than the strength of the patient can stand, that patient, by the very nature of the incumbrance, is incurable. The correct treatment of the blood serum was not begun early enough. He has lost by delay. It was said of the ancient Roman general, Quintus Fabius, that "he succeeded by delay." But in the treatment of consumption delay means loss. In the cure of tubercular phthisis pulmonalis treatment with graded intervals of treatment suspended, needs to be continued through an extended period of time. Otherwise the tuberculic proliferative action of the hæmic plasma will readjust itself to the production of new tubercle. So a person suffering with tubercular phthisis pulmonalis must not be impatient, nor become despondent because of slow progress towards recovery. It is the nature of the difficulty to be so, and the only way out of it is by the pathway of patience and perseverance.

In phthisis pulmonalis, when the system is freed from extraneous initial causes before mentioned, and the hepatic, renal and digestive functions

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normalized and pulmonary ulceration healed, no natural residual quality or condition remains to cause resuscitation of the disease unawares.

The diet, the exercise, the climate, and the medicines will form a separate article.

(To be continued.)

CIMICIFUGA RACEMOSA AND ITS CLINICAL THERAPEUTICS IN CHOREA MINOR. (SYDENHAM'S DISEASE.)

By T. G. Stephens, M. D., Ph. D., Sidney, Iowa.

(Read before the Fremont County Medical Society, February 5, 1908.)

We look over a period of centuries with wonder and surprise at the achievements made in medicine and in surgery since the days of Paracelsus in the last century of the middle age, and in Sydenham's days in the first century of modern times. It was during the time of the former the scientific name of the disease popularly known as St. Vitus' dance was first applied by Paracelsus, a bombastic alchemist and empiric. Paracelsus' real name was Phillipus Aureolus Theophrastus Bombastus von Hohenheim, who was accused of violating the ethics of time-honored traditions.

Paracelsus' chorea, chorea major, which is, fortunately, very rare, is a sort of hysterical mania which prevailed as an epidemic in the fourteenth, fifteenth and sixteenth centuries in foreign lands, for which subjects sought relief by pilgrimages to certain shrines, known as St. Vitus' dance, St. John's dance, St. Guy's dance. At a later date a type of this psychic malady appeared endemically in our own country.

Sydenham's chorea is a contradistinction from what was formerly termed chorea major, and was also called by him St. Vitus' dance. We will now depart from the historical nomenclature of our studies, as it is making the prelude rather lengthy, and will briefly mention a few of the characteristics of cimicifuga racemosa, which will smooth the way for its therapeutics in the treatment of chorea minor. The plant has a number of botanical synonyms; we will only make mention of a few: Black cohosh, black snake root, etc.; natural order ranunculaceæ, and belongs to the magnolia family. Its geographical botany or habitat in the United States is the rich, shady woods of Maine, Vermont to Wisconsin southward; the stem is three to seven feet in height. The parts used medicinally are the rhizome and its rootlets, which deteriorate by long keeping; the fresh drug, if possible, should always be used; it is nervine, tonic, alterative and antispasmodic.

Having served at the beginning of my professional life in a hospital as a house surgeon for nearly two years, and supplementing this early experience to fifty-one years of strenuous practice, I find, in looking over this period, that in many respects the fundamental principles of the science of medicine were as well developed then as they are today. We gave

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morphine to relieve pain, and chloroform to prevent pain, nux vomica for paralysis, and sulphur as a parasiticide.

Dr. Young, in 1831, was the first to introduce cimicifuga, or black snake root in chorea, and says, in the simple cases of chorea of children its value is unquestionable. Cimicifuga is nontoxic; there have been no cases of human poisoning by its use reported, and it has the advantage over the majority of preparations used for the same purpose. It has fewer objectionable properties than almost any remedial agent in the *materia medica*, rarely, if ever, meeting with a special contra-indication, operating variously and never accumulatively. I have relied on the cimicifuga treatment for nearly half a century in cases of chorea, and it never has disappointed me. What I mean by this treatment is placing it in the lead of all other remedies for safety and reliability, and the longer I use it the more favorably I am impressed with its extraordinary properties, and candor compels me to say, notwithstanding the counter-currents of opinions, that it is more efficacious in chorea than quinine is in intermittent fever, and no relapses following.

Sydenham's disease, chorea minor, is an affection in which the motor nerves are chiefly implicated. Professor Dujardin Beaumetz says: "From a clinical standpoint of therapeutics, what distinguishes chorea from the other neuroses is its spontaneous march towards recovery. From such a consideration, moreover, we ought utterly to abjure violent modes of treatment which may become dangerous by the troubles which they are likely to occasion in the organism." Illustrative case: M. Y., age fourteen, presented himself December 1, 1907, for treatment; said he never had been sick before. On the Fourth of July he was in a rainstorm, got very wet; the following morning his right foot was swollen; the next morning the left foot, and toes stiff; then felt sick for two days, and was clumsy with movements all over the body. He obtained medicine from a doctor but kept getting worse; then went to another physician, who treated him for a month with solutio Fowleri, electricity and strychnine; continued to get worse. He now showed the following clinical features: Inco-ordinate muscular movements, appetite voracious, was emaciated and quite anæmic, bowels irregular, no pyrexia nor heart murmurs, endocarditis nor pericarditis, his head was tossed about and shaken, the neck was twisted, forehead was wrinkled and smoothed, the eyelids closed and opened, and the eyeballs rolled around in their orbits; the facial muscles, including those of the lips and the mouth, were in constant motion, tongue rapidly moving backwards and forwards, and could not talk, the muscles seemed to participate in the choreic movements, was unable to feed himself, and dressing himself was an impossibility, was as helpless in that regard as an infant; the bedstead upon which he laid had to be wrapped with soft material to prevent him from injuring himself when awake, but when asleep he rested quietly. We have here a case of classical chorea, without any of the com-

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plications so frequently mentioned by French writers, See and Roger, and Hirt, in Germany, or the authors of our own country.

History of some of the patient's ascendants: Maternal grandfather had anterior curvature of the spine, the unprofessional name for the disease being "humpback," and died from paralysis. Maternal grandmother died from cancer of the stomach. One uncle is a "humpback"; an aunt at the present time has hemiplegia. The patient's mother, twelve years ago, became an epileptic and was cured, insanity followed, was sent to an asylum, where she remained for two years without any apparent benefit, was brought home, and has been improving up to the present time.

The treatment of the case, already referred to, may be embraced in a few words. A safe maxim for the medical man is to do no harm, even if he can do no good. Gave from thirty minims to a teaspoonful of the fluid extract of cimicifuga before meals, and another dose an hour after the evening meal, in ascending or descending doses. The patient lived in a rural district, and was permitted a reasonable amount of outdoor privileges. If he had lived in a city I would have given him the benefit of a gymnasium instead. At the expiration of a week's treatment there was a decided improvement, and at the expiration of a month there was not a manifestation of the disease. Later—March 1, 1908—there was no indication of relapse; the motor phenomena are still unobserved.

In cases where constipation is present, give from fifteen to thirty minims of fluid extract of cascara sagrada, after the evening meal, and if this should prove insufficient, the same dose after the mid-day meal is to be preferred before increasing the dose.

The treatment of chorea minor has drifted about, having no guide but empiricism and tradition. "The darkness in which the eitology of the disease is enshrouded ought to lead us to hesitate before we treat chorea as a neurosis whose essence is spinal excitation, pouring in the bromides till reflex excitability is well-nigh abolished, and the blood is seriously impoverished; this, too, in the case of a disease characterized by anæmia and debility." The bromides are deadly poisons when given in sufficient quantities, death being produced by paralysis of the heart. If bromide of potassium is given long and freely, bromism arises from accumulation, a sense of mental weakness, heaviness of intellect, failure of memory, partial aphasia, great somnolence, and depression of spirits.

Iron is highly vaunted as a therapeutic agent, in some cases of chorea, by many of our leading masters of medicine, but it is an uncertain remedy, often contra-indicated, and having a coinciding tendency where there is a rheumatic dyscrasia. The ferruginous preparations are all more or less styptic in their action, also disagree with the stomach, as well as injuring the teeth. Iron, in fine powder, iron filings, and the ferrum redactum represent the type of the insoluble preparations. Dr. Squibb says the tincture

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of ferri chloridi is not fit for use until six months' old; that its value depends on its ethers and its alcohol.

Clinically.—Some time ago I was summoned to the bedside of a youth seven years old, who was having severe convulsions, caused by taking Quevenne's iron by hydrogen for anæmia, which, after traversing the alimentary canal, was converted into the sulphuret, and, by the time it reached the inferior extremity of the rectum the stools were blackened in round, hard pellets, and compelled to be removed mechanically. After his bowels were freed the convulsions ceased. Professor Bunge, and others, would seem to indicate that the inorganic salts of iron are not absorbed, and organic products are much more useful than the inorganic.

Arsenic is another favorite remedy by many clinicians in the treatment of Sydenham's disease, but, like others, it is a deadly poison, even in small doses. Dr. Taylor says, the smallest dose on record producing death is two grains. It produces no effect upon diseases which have their seat in its deeper structures. Its particular predilection is the skin; commence with the smallest dose and gradually ascend until its toxic effects begin to show by puffiness of the eyelids.

From a scientific standpoint, all deleterious medicaments mentioned in the treatment of chorea by authors are apocryphal. Our motto is, "To prove all things and to hold fast to that which is good." So, after having pruned away all the apparently useless and superfluous substances for chorea minor, I retain the only one which my experience has consecrated by long usage.

PNEUMONIA.

By Charles G. Polk, M. D., Pensauken, N. J.

[Written for the Medical Brief.]

There is no other ailment the therapeutics of which are so unsettled and undetermined as pneumonia. Whether it is a plegmasia resulting from cold, or is a specific fever, many regard it as a contagious fever, transmittible directly from one person to another, or, like la grippe, often depending upon atmospheric conditions which attack a large number of persons simultaneously, and become epidemic. Its diagnosis is not usually difficult. The pneumonic râles and the rusty sputum are indicative of the nature of the case. Often, however, it is complicated with pleurisy, but the severe pain clearly speaks for the pleuritic character of the serous membrane involved; but we must decide also between pleuritis and pericarditis. A moment's reflection decides this diagnosis. The friction sound is caused by the rubbing of the two surfaces. If it is pleuritic, the friction sound ceases if the patient holds his breath, while if the ailment is pericarditis, the friction sound continues.

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There is no other disease with a greater mortality, excepting tuberculosis. Unlike tuberculosis, it is seldom so lingering a disease, extending over so long a period and with so certain an end. The therapeutics are as unsettled and undecided as the pathology. Fifty-two years ago, when the writer entered the medical profession, much fewer remedies were employed than is the case now. Our first step was to tie a tight bandage around the arm, then came the lancet and a bleeding to syncope, followed then by a fly blister, finally winding up with a dozen calomel pills containing one grain each, one to be taken every two hours, and ten grains of Dover powder, to be given at bedtime. This was the course usually pursued by the writer fifty years ago, with about the usual success as the average physician of that period. Then came the eclectic, with his twenty minims of tinctura aconite flowers in about three ounces of water, a teaspoonful of water every twenty minutes, to be given until the big drops of perspiration danced upon the forehead of the patient, the temperature falling several degrees, the respiration becoming more like normal, followed by a quiet sleep. Then, with a good dose of senna and jalap, to clean out the intestinal canal; these were succeeded by a pill containing two grains of camphor, two grains of quinine sulphate, one-eighth of a grain of podophyllin, and one grain of pulverized digitalis, every three hours, usually finds a decided improvement by the third or fourth day. Some used warm poultices to the chest, some used cold-water dressing. If the prostration was great, an early resort was a common practice. About twelve drachms of old Hennessy brandy, with about five drops of digitalis, were imperatively required to sustain the heart's action. To overcome the plasticity of the blood a favorite prescription of the eclectic was:

Ammonii carbonatis	100 grains.
Phosphate of codiac	8 grains.
Terpen hydrate	2 drachms.
Ex. ipecac, fluid	16 minims.
Glycerine	2 ounces.
Mucil. acaciæ	q. s. ad 4 ounces.

M. Sig: A dessertspoonful every three hours.

The homeopaths relied largely upon the mother tincture of aconite, belladonna and pulsatilla, and success generally followed this procedure.

The writer's practice has been to give:

Aconite (Fleming's tincture), ¼ of a drop; tinct. digitalis, 5 drops; carbonate of ammonium, 7/112 drops; wine of ipecac, 3 drachms; tincture of pilocarpus pinnatus, 2 drachms; syrup glycyrrhiza, q. s. ad., 8 ounces.

Sig: Dessertspoonful every three hours, largely diluted in water.

Quinæ sulphate, ½ drachm; strych. nitrat, ½ grain. Make into 20 pills.

Sig: A pill four times a day.

Then the writer has encountered the expectant class, those who do not believe in the value of any medicine in pneumonia, relying entirely on

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hygienic measures, diet, and sanitary measures. The mortality attending this rationale has been less than we would have *a priori* expected, but nevertheless much greater than results from following out scientific treatment. I have treated sixty cases without losing a case. Dr. Austin Flint, with his carbonate of ammonium treatment, has about the same experience.

The important point to ever be held in view is the prevention of loss of plasticity of the blood. There is great danger of coagulation of fibrin in the right cavities of the heart, as this terminates life through the formation of blood clots in the heart. With this prevented, seven-tenths of the danger in this disease is averted. With this danger prevented, we must guard against exhaustion. With proper care, this may be accomplished. Quinine pills, each two grains, three times daily; one-thirtieth of a grain of strychnia three times a day, and five grains of the hypophosphite of calcium three times a day, with six ounces of pure whisky (a difficult thing to obtain), will usually ferry the pneumonic patient over this danger. So careful is the writer on the whisky subject that he requires his druggist to keep a whisky sold in bond, with a revenue stamp on every bottle as a guarantee. Commercial whisky is not fit for a well man, much less for the sick. Keep in mind that the dangers in pneumonia are, first, heart clot, next asthenia in combination with apnea, and last, but not least, brain complications. The mortality of pneumonia should be very much reduced.

FECAL IMPACTION AND ITS TREATMENT.

By Dr. A. Van Nappen, M. D., Niles, Mich.

[Written for the Medical Brief.]

A young man of twenty-one years had no bowel movements for ten days. His physician advised laparotomy at once. Dread of the knife made him dismiss his faithful doctor and call me in. Neither he nor his parents told me of having had medical advice, but only explained the condition. I asked whether he had taken any laxative, and he told me of having used pills, castor oil, and also croton oil. The patient was weak, the abdomen tympanitic, the temperature 96° F., and the pulse eighty-eight. I first proceeded with copious enemata by means of Hegar's funnel, and could inject about one gallon of water; this proved that there was no koprostasis, and that the occlusion was at the neighborhood of the colon ascendens. Seeing that I had no results with my enemata, I first brought in one-half ounce of bicarbonate of soda dissolved in one-half gallon of water, and soon afterwards one-quarter ounce tartaric acid in another one-half gallon. After ten minutes the water came out, brownish colored, and smelling of fæces. One hour afterwards another such enema, and so every hour, until after the fifth the patient had an enormous movement and was safe.

I can recommend the carbonic-acid gas development in such cases with emphasis.

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MEDICAL LANGUAGE.

By Dr. H. Zimmerer,

Professor of Philology, Regensburg, Germany.

The language of medicine is the result of its historical development. It evidently bears the unmistakable, and, perhaps, indelible impress of the vestiges of these laborious, and not always salutary influences. In the same way as almost the entity of our Occidental civilization has grown upon the soil of Græco-Roman antiquity, the chief constituent parts of the linguistic treasure of natural philosophy is contained within the confines of the classic languages.

The writings of Hippocrates, Aristoteles and Galenos, as well as of Celsus, Plinius and Vegetius, are, and will remain for all scientists, the basis and test for correctness of language, and purity of Greek and Latin terms in the domain of natural philosophy. Pollux, in his Greek Onomasticon, has stored up the existing supply of medical onomatology.

It is by this means that these sciences still bear today the stamp of intercommunity, simplicity and internationality, and this fact makes it an indispensable duty for every physician and natural philosopher to acquire a knowledge of these two languages.

Without a knowledge of etymology, and the laws of word construction, a linguistic expression will not be retained in the memory; it possesses neither sense nor form, its relations and differentiations are unrecognizable and obscure, throwing the door wide open to arbitrary misconceptions and linguistic malformations.

The doctrine of word construction consists of two divisions: The formation of words through *derivation* and *composition* in accordance with the established laws. The entire word supply of a language, in its infinite variety, may be traced to a comparatively small number of roots. A root is that important sound complex which remains of a word after all its formal appendages have been detached. For instance, in the following words, reg-o, reg-s (rex), reg-is, reg-ina, rec-tor, rec-trix, rec-tus, rectura, reg-io, reg-imen, reg-imentum, λέγ-ω, λέκ-σω (λέξω), λέξις, λεκ-τός διά-λεκ-τος, λεκ-τικός, λέκ-τρον λόγ-ος, διά-λογ.ος, λόγ-ιος, λογ-ικός, λογ-ικεύω, λογ-ιό-της, λογ-ίδιον, λογ-ιεύς, λόγ-ιμος, λογ-ίζω, λογ-ισμός, λογ-ιστής, λογ-ιστήρ, λογ-ιστηρία, λογ-ιστήριον, λογ-ιστικός, λογ-ιστεύω, λογ-άς, λογ-άω, λογ-άζω, λογ-άδην, λογ-αδικός, λογ-άριον, λογ-αριάζω, λογ-αριασμός, λογ-εύω, λογ-εύς, λογ-εία, λογ-εῖον, λοξίας; *reg.* and λεγ are the roots, all the rest are appendages which have been attached to the roots *reg.* and λεγ Words which are the immediate outcome of the root are called root words, or *vocabula primitiva*, and it was our object, in the majority of cases, to enucleate the latter in order to establish the etymology of the clinical term; for the roots themselves might have tempted us too often to delve into the origin of the oldest forms of the Indo-Germanic sister languages, or Sans-

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krit. "Anyone whom this does not satisfy, and who wishes to investigate the very meaning of the root, inquires after the origin of language itself. This question has been answered by the language philosophers to the effect that the most primitive material of the language consisted in reflex sounds, accompanied by gestures." (See Prellwitz, Etymologisches Wörterbuch der griechischen Sprache, 1892).

A root word consists of two component parts, the root proper, and a flexional or formative termination.

Flexional terminations are, in the first place, the personal suffixes of verbs: o, i-s, i-t, ω, εις, ει, etc. By attaching these suffixes to the root, the latter becomes a verb, thus: reg. reg-o, reg-is, reg-it, λεγ, λέγ-ω, λέ-γεις, etc. In the second place, there is the s, indicating the nominative, which, if attached, changes the root to a substantive of the so-called third declension, thus: reg, reg-s (rex), leg, leg-s (lex), or to a pronoun, thus: i, i-s, ὁ, ὁ-ς.

Formative terminations are (a) suffixes which merely designate the fact that the root word is a word of the so-called first, second, fourth or fifth declension, thus: scrib, scriba, γραφ-, γραφή: hort-us, χόρτ-ος; bonus, ἀγαθ-ός (dulc-is, γλυκ-ίς), ac-us (ἀκ-ίς), ge-nu (γόν-υ), di-es, δι-ος; (b) suffixes which impart to the word a special significance, as for instance, reg, rec-tor (leader), λεγ, λογ-εύς; orator, reg-io direction, λέξ-ις; speech, reg-imen steering, λεξ-ικόν; lexikon, frag-ilis fragile, λεκ-τικός; loquacious, luc-idus lucid, φαν-ερός.

Root words are differentiated from words derived from the same vocabula derivativa, as shown by the following examples: Cap-ere, cap-tare, cap-tatio, cap-tator, cap-tivus, λέγ-ω, λογ-ίζω, λογ-ισμός, λογ-ιστήρ, λογ-ιστικός; serv-us, serv-ice, δοῦλ-ος, δουλ-εύω; gen-us, gen, gen-eris, gen-er-are, γέν-ος, γέν-εος, γέν-εσις, γεν-νάω, etc.

The derivation of words from roots, or from other words already formed, by means of attached suffixes, is a kind of flexion, from which, however, it is distinguished by the fact that it does not (like the latter) express the changeable relations of one and the same conception, but, rather, new word-forms for new conceptions, constructed from roots or words established therefrom. No doubt the idea conveyed by the root is always recognizable and predominant in all its derivations and evolutions, but is formed for each and every one of them in a peculiar way of their own, and results in a particular word formation. For instance, the suffix -tor, Greek, τηρ, indicates the idea of an active person, such as rec-tor leader, λογ-ισ-τήρ: calculator, the suffix -tio indicates the abstract conception of an action, such as rec-tio, the act of leading; the suffix -ilis indicates the conception of a capacity, such as frag-ilis, fragile; the suffix -tare that of intense activity, such as cap-tare catch.

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Let us now consider the suffix formations, in their application to our medical terms, and we find that by far the most frequent medical suffix is (1) i, - i-tis. Originally, this is nothing but the feminine termination of substantives ending in *της* and more particularly of adjectives in *α-της*, *ε-της*, *ι-της*, *ω-της*, for instance, *ἐργάτης*, workman; *ἐργάτις*, workwoman; *ἱκέτης*, asking for protection; (*ἱκέτις-*) *δεσμώτης*, fettered; (*δεσμῶτις*) *νεφρίτης*, kidney-like (*νεφρῖτις*).

The number of words in *ίτης* is about four hundred, without counting the gentilia which designate the origin or inhabitants of a town. These words are formed by means of the secondary suffix *ι-της*.

Corresponding to the Greek forms there are the Latin formations in -itis, as, for instance, Queritis and Samnitis.

It may be assumed that later the derivative suffix, *τη*, showed a predilection for adjectival forms in -io, as, for instance, *ἀπίτη* (*ἀπιο-* pear), *ἡλίτη*, sunlike (*ἡλιο-* sun), *νηίτη-* concerning the fleet, (*νηιο-* appertaining to the ship), *σκορπίτη-* scorpion stone (*σκόρπιο* scorpion,) etc.

These formations are related to the numerous verbs in *ίζω*, which denote an inclination towards their root words, as, for instance, *ἑλλην-* *ίζω* am hellenically inclined, *μηδ-* *ίζω*, etc.

They further contribute a large contingent in the formation of words pertaining to natural history, such as stones, wines, and diseases, notably inflammations, because this suffix indicates an exaggerated idea of the original conception expressed by the root word. Thus, *ἀμμίτης*, sandstone; (*ἄμμος*) *βατραχίτης*, green frog stone; *νερανίτης*, crane stone; *κεγχρίτης*, millet stone; *κηρίτης*, wax stone; *μιλτίτης*, red chalk stone; (*μίλτος*), *πρασίτης*, leek stone; *πυρίτης*, fire stone; *σμαραγδίτης*, emerald-colored; *συκίτης*, fig-like; *χαλκίτης*, copper stone; *χλωρίτης*, grass green stone; *στηλίτης*, columnar stone; *βοτρυίτης*, botryolite (grape stone); *αἱματίτης*, blood stone; *γαλακτίτης*, milk stone; *φεγγίτης*, Bolonian (luminary stone).

Wines: *μαραθρίτης*, prepared from fennel; (*μάραθρον*), *μηλίτης*, cider; (*μῆλον*) *μυρτίτης*, myrtle wine; *ναρδίτης*, prepared with spikenards; *ὀμφακίτης*, from immature grapes; (*ὀμφακ*), *θυμβρίτης*, bottled over savory; (*θύμβρα*, satureja hortensis); *πισσίτης*, pitchy flavor (*πίσσα*), *ρητινίτης*, resinous taste, etc.

Referring to diseases: *ἀερῖτις* (scilicet *νόσος*), *αἱματῖτις*, *ἀμυγδαλῖτις*, *ἀνδρωνῖτις*, *ἀνθρακῖτις*, *ἀρωματῖτις*, *γαλακτῖτις*, *δονακῖτις*, *ἐγγαστρῖτις*, *ἡπατῖτις*, *θυλακῖτις*, *θωρακῖτις*, *καρδῖτις*, *κονδυλῖτις*, *λειμωνῖτις*, *μυρμηκῖτις*, *ὀνυχῖτις*, *παρωνῖτις*, *πιδακῖτις*, *ποικιλειμωνῖτις*, *πνιγῖτις*, *πωγωνῖτις*, *πριονῖτις*, *σκιλακῖτις*, *σκωληκῖτις*, *σπληνῖτις*, *φρενῖτις*, *χαλκιδῖτις*, *ὠτῖτις*, *πνιγῖτις*, *κεραμῖτις*, *ῥαχῖτις*, *ἀμαθῖτις*, *ἀμπελῖτις*, *ἀρθρῖτις*, *ἀφορῖτις*, *ἀχυρῖτις*, *βαλανῖτις*, *βυθῖτις*, *δακτυλῖτις*, *δειπνῖτις*, *ἐπισκληρῖτις*, *ἐπιτοξῖτις*, *ζεφυρῖτις*, *ἡλῖτις*, *ἡμιονῖτις*, *κροταφῖτις*, *κωνῖτις*, *λεπτῖτις*, *μαρμαρῖτις*, *μεσοπλευρῖτις*, *μεταλλῖτις*, *νευρῖτις*, (*νεφριτις*, *νεβρῖτις*), *νησῖτις*, *νιτρῖτις*, *πεταλῖτις*, *ἰαλῖτις*, *φελλῖτις*, *φλογῖτις*, *χλωρῖτις*, *χονδρῖτις*.

(To be continued.)

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HINTS TO THE YOUNG DOCTOR.

By Charles Franklin Dutton, M. D.,
Emeritus Professor of Medicine and Clinical Medicine in the College of Physicians and Surgeons, Cleveland, Ohio.

[Written for the Medical Brief.]

As pathology has been more definitely understood, and as means of diagnosis have become more accurate, we now treat our patients rationally where we used to treat them empirically. We can now afford to drop our "isms" in medicine and treat conditions as we meet them in our patients, in contrast to the times when they treated the disease more by the name by which it was called.

I would say to the young physician: be sure about your diagnosis. The first thing when called to see a patient, ascertain as accurately as possible his real pathological condition, not losing sight of the fact that the social condition of the patient may be such that your plan of treatment can not be carried out; but in those cases where it can be carried out, as well as in others, determine whether it is necessary to treat the patient with medicine at all. Question yourself as to his hygienic condition, and decide what is best to be done for the patient along that line.

Ask yourself what are the indications of the disease for definite treatment, or, in other words, what you wish to do, what you want to accomplish in the case at hand; and then consider, if you come to the conclusion that medicines are needed, what single medicine would be most efficient, and choose from out the immense number of remedies for the condition, that which appeals to you as most efficient in the case.

Make your prescription as simple as possible, using only such remedies, in addition to the one already selected, as will add to its efficiency, and make it as agreeable as possible.

Give no remedy without a reason, and a better one than that it is highly recommended. Unless one has knowledge of the *materia medica* and a familiarity with the various remedies to the extent that he can judge for himself what a given remedy will do, he is not well enough educated to be a safe physician in any community.

From my earliest practice I have kept in mind that a large proportion of diseases are self-limiting; that nature, when not interfered with, will often tend to recovery, and often a patient will recover sooner without remedies than with them. This should always be kept in mind in prescribing for any condition. Cease your remedy as soon as it has accomplished the purpose for which it was given. No young physician should start out in practice with the idea of giving medicine to people simply because they want it, despite the fact that many patients often have more confidence in remedies than they have in the doctor's advice.

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COLCHICUM AUTUMNALE.

By John Albert Burnett, M. D., Greenwood, Arkansas.

[Written for the Medical Brief.]

Meadow saffron is the common name of colchicum. It has an alkaloid, called colchicine, which is reliable. The average dose of the fluid extract of colchicum is three drops, and the average dose of colchicine is 1-128 grain. These doses can be increased considerably, as much as ten drops of the fluid extract can be given, but it will make a patient extremely sick, and this amount should never be used except in rare cases and with good judgment. It is not necessary to give more than five drops in most cases. In rheumatism, especially the subacute and chronic forms, in large, robust patients that are constipated, large doses of colchicum will be of great value, and in similar conditions of sciatica and lumbago it is reliable. I consider colchicum one of the best internal remedies in rheumatism in cases where harsh treatment can be used.

Some physicians use it with jaborandi and cimicifuga. Colchicum is better adapted to subacute and chronic cases of rheumatism, but will give good results in many acute cases. Many physicians only use it after sedation has been produced when the pain is tearing, and aggravated by heat. I am fully aware of the fact that in acute cases, where there is considerable pain and fever, and no constipation, that the following would be a better remedy.

℞. Sodium salicylate ..... 1 drachm.
Acetphenetidin ..... 1 drachm.
M. ft. chart. No. xxii.

Sig: One every four hours.

The sodium salicylate should be from oil of wintergreen.

Large doses of colchicum act as a drastic purgative, diaphoretic, emetic, diuretic, gastro-intestinal irritant and cardiac depressant. Full doses act as an emeto-cathartic, producing watery discharges, severe griping, great nausea and weakness. It is said to cause death from exhaustion when a sufficient amount is given. Its influence on the excretion of uric acid and urea is a debated subject, but, in my opinion, it must have some influence in this direction. It is admitted that it certainly unloads the portal circulation, and increases the flow of bile. It has been used in ascites from obstructive diseases of the liver. Some forms of cerebral congestion, gonorrhœa and chordee have been treated by colchicum. This is a remedy that should not be continued long in the treatment of any disease, unless very small doses are given.

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EPHEMERAL FEVER.

By H. C. Sarcar, M. D., Tollygunge, India.

[Written for the Medical Brief.]

In the chapter headed Ephemeral Fever and Simple Continued Fever, in Dr. William Pepper's American Text-book of the Theory and Practice of Medicine (Vol. 1, page 6, Ed., 1903,) occurs the following:

"When the affection lasts only from twenty-four to seventy-two hours, it is called ephemeral fever, while the duration of simple continued fever, or febricula, is more commonly from seven to twelve days, though it may not exceed four or five."

From this it would appear that according to the learned Doctor febricula is a synonyn for, and the same as simple continued fever, but quite distinct from ephemeral fever.

Dr. Ailken, however, in his learned Science and Practice of Medicine (Vol. 1, page 637, Ed., 1880,) has given the French *fièvre éphémère* and Italian *febbre efemera*, as equivalents of febricula, which is the same as the Latin and German names of the disease. It is remarkable that the Italians have two names for the malady, viz.: *Febbricola* and *febbre efemera*.

Neither in English nor in the continental equivalents do we find febricula to indicate simple continued fever (*vide ibid*, page 635). When two such doctors as aforesaid differ, may I ask the favor of yourself and your readers to decide whether Dr. Pepper is justified in his description, or Dr. Ailken is correct in his synonyms?

In this connection I should be much obliged for reports whether chills are invariably present (as stated by Dr. Ailken), or rare (according to Dr. Pepper), at the commencement of ephemeral fever. In my experience of about a quarter of a century, chills are invariably present in such cases, and the disease is, as all know, very common in a tropical country like ours. I have never found or heard of herpes ever appearing here in any case of ephemeral fever where the patient had not indulged in some acid comestibles.

ATONIC AMENORRHEA.

Amenorrhea, due to deficient supply of blood—atonic, as it is called by some—may be greatly benefited (*Am. Jour. of Clinical Medicine*), by the use of syrup of iodide of iron (*syrupus ferri iodidi*, U. S. P.). It is best administered in doses of one c.c. (fifteen minims), one hour after each meal, rather than at meal-time, when the iron is apt to unite with the tannic acid of the tea or coffee drunk, and thus form ink, which is of no value, since tannate of iron is insoluble.

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CURRENT MEDICAL LITERATURE.

Pharmacological Study of Cannabis Americana (Cannabis Sativa.)

E. M. Houghton and H. C. Hamilton (*The Therapeutic Gazette,* January 15, 1908) show that there has been a fallacious belief on the part of American medical practitioners that the native hemp will not give therapeutic results akin or as good as the cannabis from India. Accordingly, they undertook an investigation of the physiological effects of nine different samples of American cannabis sativa, samples being obtained from Minnesota; from Mexico, grown in 1904, in 1905, in 1906; from Kentucky, grown in 1906; from Detroit, Mich., grown in 1907; from Kentucky, grown in 1907. From these samples fluid extracts and solid extracts, prepared according to the U. S. P., were tested upon dogs. It was found from these experiments that cannabis sativa, when grown in various localities in the United States and Mexico, is fully as active as the best imported Indian-grown cannabis sativa, as shown by both laboratory and clinical tests. An interesting observation in these experiments was the fact that the investigators were never able to give an animal a sufficient quantity of a U. S. P. or other preparation of the cannabis (Indian or American) to produce death.

A Method of Reducing Displaced Internal Semilunar Cartilage.

H. G. Jacob (*British Medical Journal,* March 7, 1908) says that in this condition, which usually occurs in consequence of a twist of the knee-joint, while in a state of flexion or fixation, the cardinal symptom is inability to extend the joint fully, any efforts in this direction being attended with pain; if reduced, the cartilage remains nipped between the tibea and the femur, the patient's walk being a limp, with the knee semi-flexed, while sooner or later synovitis is certain to occur. The method sometimes recommended is to forcibly extend the knee, but without an anesthetic this is barbarous in the extreme, and even with one is apt to be followed by a severe synovitis.

Jacob claims the following method is successful, practical and painless, and, if the patient has not made unavailing efforts to reduce the displacement or has not endeavored to walk, practically unattended with synovitis. The patient lies on a bed or couch, the surgeon standing on the other side of the limb affected, with his face towards the patient's feet. The patient then raises his leg off the couch in the semi-flexed condition, the surgeon grasps the patient's leg in both hands, and, using his own thigh as a

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fulcrum, by means of a steady pulling motion draws the patient's leg outwards, while the surgeon's thigh keeps the femur in a fixed position; directly this movement is effected, the patient must steadily extend the limb, and the displaced cartilage will probably go back with a slight click; if the first movement of extension is not successful, the maneuver must be repeated without any hurry or unnecessary force, and, after a few attempts, the cartilage can usually be felt to slip in without pain or inconvenience.

The rationale of this procedure is that the levering outwards of the patient's leg reduces the resistance to the backward passage of the semilunar cartilage, which then slips back into place by the aid of gravity. In view of the frequency of accidents of this character, this procedure is recommended on account of its extreme simplicity, the absence of pain, and freedom from after effects.

A Study of 400 Cases of Epithelioma, in Private Practice, With Remarks on Treatment and Results.

L. Duncan Bulkley and Henry H. Janeway (*Medical Record*, March 21, 1908) record some 417 cases of carcinoma occurring in the practice of one of the writers during a course of over thirty-five years. An analysis of these cases shows some interesting facts, to-wit, the disease appeared in males much more frequently than in females, 274 to 143, or almost two to one. As to location, the most frequent site was the nose, the cheek coming next, then the lower lip, and upper lip. Observations as to the duration of the disease are difficult to make, but there is a general agreement as to the obstinacy of the condition.

Concerning the varieties of epithelioma, there are two distinct kinds, conveniently classified, according to Krompecker, (1) epithelioma basocellare, and (2) epithelioma spinocellare, referring respectively to the layers of the skin from which the particular variety is supposed to originate.

The conclusions arrived at by Bulkley and Janeway are interesting, and are as follows:

1. The most frequent form of cancer which the dermatologist is called upon to treat is, both pathologically and clinically, quite a different growth in its relatively benign course, from the usual conception of cancer.

2. It occurs chiefly about the face, where radical operative procedures are apt to produce serious deformities, which may materially add to the patient's discomfort.

3. While the experience of thirty-five years indicates that many cases may be permanently cured by caustic pastes, these are at times disapppointing, and may lead to an aggravation of the trouble.

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4. The curette can not be depended upon alone, but requires additional destructive agents to the base left after operation.

5. By the proper use of the X-ray we have a safe, and in cases that have not been grossly neglected or maltreated, a sure method of cure, with the least amount of deformity.

6. In cases where knowledge and experience show that these lighter measures are not likely to avail in checking the course of the disease, recourse should certainly be made to complete surgical removal, as this has been shown to be permanently successful in a reasonable proportion of cases.

Abscess of the Lung Cured by Incision and Drainage.

C. H. Cattle and J. R. Edward (*British Medical Journal*, March 7, 1908) report a unique case of abscess of the lung cured by incision and drainage. The patient was a man, aged thirty-six years, who, after an attack of pleuro-pneumonia, in July, 1907, continued to cough up, first, pinkish, tenacious sputum and, later, inodorous purulent sputum. Upon coming under the observation of Cattle and Edward, in September, 1907, he was emaciated, respirations twenty-eight, hectic condition, with a temperature ranging from 98° to 102° F. No tubercle bacilli were found. Expectoration of this purulent material continued, and the patient could only lie comfortably in one position, i. e., on the right side, with the head near the edge of the bed. The heart sounds were normal. Movement over the left lung was impaired; deficient resonance over the entire left lung, most marked at the lower part of the axilla, and near the angle of the scapula. Breath sounds were weak, especially near the angle of the scapula. There were scattered crepitations over the left side, which were amphoric and distant. The right lung showed some dullness, but not nearly as much as the left. Attempts, at that time, to find pus by means of the exploratory needle plunged into the lung, were fruitless. Yet, on December 10, 1907, the exploring needle was again used, and a syringeful of pus obtained.

On December 14, 1907, under chloroform anesthesia, pus was again located with the needle, near the angle of the left scapula. A piece of the eighth rib was excised, the pleura incised and indurated lung substance met with; passage of the needle downward and forward resulted in pus being found at a depth of two and one-half inches from the surface of the lung. Dressing forceps were passed along the side of the needle, the blades were opened up and, after some difficulty, owing to the dense character of the indurated lung tissue, sufficient space was made to allow a free drainage of pus to ensue, at least a pint of pus finally escaping. A rubber drainage tube was then inserted, reaching to the bottom of the wound thus made in the lung. Uneventful recovery took place in about thirty days.

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The physical condition generally improved, with a gain of about ten pounds inside of two months.

Although this patient presented signs of abscess of the lung when he first came under observation, it does not follow that this abscess followed from the actual solution of a previously-hepatized lung. The abscess might have resulted from a primary penetration of pus from an empyema. Obscurity of the classical physical signs of a pus cavity, in this case, was doubtless due to the fibroid thickening of the tissues and the depth of the pus cavity. Attention is directed by the writers to the inability of the abscess to heal, notwithstanding the free exit to the pus by expectoration, and to the rapidity of the healing after drainage from a dependent opening. The sound cicatrization of the tissues and closing of the bronchial fistula are also worthy of note. A fistula, in such cases, is apt to remain permanent, especially in tuberculous and bronchiectatic cases, according to West (Diseases of the Organs of Respiration, page 545).

Pseudo-Myxoma of the Peritoneum.

George Gellhorn, M. D., St. Louis (*Weekly Bulletin of the St. Louis Medical Society*, March 26, 1908), reports that a year ago this patient was the picture of health. She was forty-four years old, had been married seventeen years, had conceived but once, sixteen years ago, but had miscarried. Menstrual history fairly normal until of late, the intervals between the menstrual periods had been shorter, and there had been increased flow. She had always been stout, but during the past month had noticed a gradual increase in the size of the abdomen, which latter she attributed to bloating. Three weeks before consulting a physician she had noticed paroxysmal pain in the lower part of the abdomen. She was well nourished, vigorous, and the abdominal walls were well developed and distended, so that she had the appearance of a woman at the end of pregnancy.

He succeeded in partially mapping out a tumor, which he thought belonged to one of the ovaries; to the right and in front of the tumor he thought he could make out the uterus. His conclusions were the result of several examinations, with and without narcosis. There was no fluctuation, but some ascites, which latter was rather slow in changing its position when the patient was turned from side to side. Vaginal examination showed the mouth of the uterus very wide, and a polypus hanging into the vagina. Operation was suggested and carried out last February. A copious amount of grayish-white jelly-like substance escaped on opening the abdomen. After lengthening the incision and scraping out enormous quantities of this jelly-like substance, he found that the abdominal cavity itself was filled with this grayish-whitish-yellowish substance. After the removal of several panfuls he could feel the uterus, and to the right of it a small multilocular cyst. The cyst wall was torn, with ragged edges, and

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in some places in contact with this jelly. The cyst was removed without any difficulty. The abdominal cavity was cleansed as carefully as possible. The amount of jelly found free in the cavity, together with that in the cyst, weighed nine and one-half pounds, and almost filled two buckets. The appendix was short, but large, and filled with fluid, and, consequently, was removed. The patient made an uneventful recovery, leaving the hospital in about three weeks, apparently in the best of health.

His surprise was very great when he discovered that this was a case of adeno-carcinoma of the appendix. There was a proliferation of the epithelium, invading the glandular tissue. Six weeks after operation the patient came to his office for final examination, and told him that menstruation had returned, had been unusual in amount, and that there had been a constant discharge from the uterus for the past two weeks. The writer snipped off the polypus and curetted the uterus, which was accompanied by no pain. There was found a squamous carcinoma of the uterus; he informed the patient that another operation would be necessary, but she refused and was treated by another physician for inflammation of the uterus until she had profuse hemorrhages. The treatment was necessarily without result, so that the patient was finally referred to a surgeon who performed a second laparotomy. The left ovary, and a large amount of gelatinous substance, were removed. The patient made an excellent operative recovery, but did not regain her former health, and her abdomen increased rapidly in size. Dr. Gellhorn did not see her again until the 23d of January. She was very anemic, could not stand erect, and could not pass water except in a standing position. She had constant pain. It was clearly a recurrence of the affection.

So far as known no treatment has ever been effectual in these cases. The autopsy will add considerably to the knowledge of the condition. In order to encourage her, however, she was sent to the St. Louis Skin and Cancer Hospital, where she has received three X-ray treatments a week, and with a marvelous result. The pain has disappeared and the abdomen, which had been as tight as a drum, has become softer; the appetite has improved. She is able to pass her urine without discomfort, which she had not been able to do for the past six months. The dimensions of the abdomen have not changed. While it is believed this is but a passing improvement, yet it is remarkable, and brings up the question whether in the early stages the X-ray might not be beneficial, if not curative, in these cases.

One of the unique features of this case is that this was a squamous-cell carcinoma of the uterus, an adeno-carcinoma of the appendix, and a glandular ovarian cystoma. The latter condition, which, at first sight, is benign, is clinically malignant, so that there were three separate and distinct malignant processes in this individual. At present the writer is not able to make a vaginal examination because the mass has so completely

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filled the recto-vaginal space that it is impossible to pass the finger beyond the symphysis. It is possible that the cancer of the uterus was confined to a very small area, and that the entire carcinoma was removed, for the patient has had no further symptoms of cancer of the uterus.

Treatment of Gastric Ulcer.

Theodorus Bailey, B. S., M. D. (*American Medicine,* March, 1908), divides patients the subject of gastric ulcer, into two classes, those who are able to take the "rest cure," which gives better results, and those who, on account of business, are unable to do so and must, perforce, take what he calls the "ambulatory" treatment. The rest-cure treatment consists in keeping the patient in bed, all excreta, etc., being passed into a bed-pan, the patient lying flat on the back for a week after all symptoms have disappeared, then gradually allowed for three days longer to sit up in bed, after which he may be up and about. Severe cases call for no food by the mouth, nutrient enemata only being employed until symptoms lessen. Nutrient enemata should always be preceded by a cleansing enema through a short tube. Nutrient enemata should be given through a long rectal tube, with side openings and velvet eyes. Patient should remain in one position for half hour after receiving the enema. If the bowels are irritable, add three to ten drops of tincture of opium to the enema, which ordinarily consists of peptonized milk, five ounces; yolk of one egg; claret, one tablespoonful; certain prepared cereal foods, one tablespoonful, and a pinch of salt. If thirst is aggravating, let pieces of ice melt in the mouth.

After this treatment for a time, put the patient upon a suitable diet. Milk is the best dietary; if the milk curdles in the stomach, stop using raw milk and substitute boiled milk. Some patients can not take milk in any form. In such cases, first try addition of bicarbonate of soda, vichy, lime water. Boas adds a small amount of tea, and Hayes recommends milk of magnesia. Considerable loss of flesh follows an exclusive milk diet, so that in a few days we must add milk powder or condensed milk. Ewald advises, at this stage, the use of flour soup boiled with milk. In place of milk, buttermilk may be now given. Raw, beaten-up white of egg, or white of egg in water, may also now be allowed. If milk can not be borne at all, try meat-solution, preferably with an egg beaten up in it, or meat jelly. This does not irritate the ulcer at all, as a rule. Meat jelly is made by cutting up a fowl (including the bone) into small pieces, adding a pint of cold water to the pound, boiling down slowly to such a consistency that when cold it will gelatinize, which will be about half the original quantity. This takes about three hours. When cold, remove all the grease from the top. Beef or mutton may be substituted for the fowl.

Sugar solution is also well borne, because it, apparently, diminishes the secretion of acid in the stomach, being indicated especially in cases of

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ulcer associated with hyperchlorhydria. It is contraindicated in all cases where there is a tendency to fermentation.

After the patient improves he can be put upon the so-called second dietary, which consists of softened cakes, biscuits, dipped rolls, tapioca, leguminous soups, boiled calves' brains, boiled pigeon, chickens, scraped beef, oysters or clams. In another week use the third dietary, which consists of half-raw broiled beefsteak, scraped raw ham, mashed potatoes and carrots, dry zwieback.

The fourth dietary is given as late as possible, consisting of broiled chicken, rare roast beef, fillet de bœuf without sauce, quail, pike, prunes in puree form, stewed apples and pears, puree of spinach, green peas, turnips, lentils and beans.

Medicinal treatment consists, in the main, of bismuth salts and silver nitrate. The Nisbet method is good, consisting of the administration of nitrate of silver in one-quarter-grain doses in a tablespoonful of water every morning when patient awakes, a half hour before anything else is ingested. This is given for ten days. After that, give bismuth in drachm doses, suspended in half a glass of water, before going to sleep, continued for weeks, if necessary. A large dose of bismuth subcarbonate may be given for constipation. In cases of hyperchlorhydria, give an alkali. After discontinuance of the silver-nitrate treatment, give Carlsbad salts on rising. For anæmia, give iron. If there is hemorrhage, give hypodermic injection of morphine sulphate, one-quarter grain, and atropine sulphate, 1-150 grain, ergotin sulphate by the mouth. If necessary, use small dose of adrenalin or pint of a warm solution of salt by hypodermoclysis or intravenous injection, and nutrient enemata after twenty-four hours.

The ambulatory treatment differs from the rest cure only in that the patient is up and about, and that the compresses are not used, or if used are only employed at night. The same medical and dietetic treatment, without the nutrient enemata, is employed. The patient can carry his liquid diet around with him in a Thermos bottle.

Gummatous Disease of Both Nuclei Caudati.

Dr. Campbell (*Berliner Klin. Wochenschrift*, March 2, 1908) reports an interesting case of gummatous lesions of both caudate nuclei of the cerebrum, with autopsy findings, showing, in a measure, the role of these bodies in the physiology of the brain. He reviews the literature upon this physiology, stating that very little is accurately known as to the true function of the caudate nuclei. Sachs and Aronsohn claim that in these bodies there is a thermic center. Magendie has observed that rabbits, with lesions experimentally produced in the corpus striatum (nucleus caudatus and nutleus lentiformis), show an irrepressible impulse to run forwards. Nothnagel maintains, from experiments upon dogs, that wounds of the

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caudate nuclei have nothing to do with spontaneous movements, but that these bodies are concerned in those forward motions of the body which are interwoven with psychic impulses. He, therefore, speaks of a nodulus cursorius in the caudate nuclei. Munk has seen disturbances of the posture of the body result from caudate nuclear lesions. Probst has seen disturbances of the movement of the head from the same lesions. Edinger believes that what he calls "spontaneity" of movement is involved in caudate nuclei lesions.

Even though the caudate nuclei are often the seats of lesions in man from hemorrhages, but little is clinically known of the function of these bodies. The most common lesions implicates both sides, especially the inner capsule. When the inner capsule is uninjured, it has been observed that there is never a lasting paralysis. Hutchinson reported a case of bilateral affection of the nucleus caudatus, where the earliest symptoms was incontinence of urine and weakness of the sphincter ani. The patient was indolent, dull, stupid. There was no paralysis, but a staggering gait. He emaciated rapidly and died, showing sarcoma of both caudate nuclei.

The case reported by Campbell was a young man of twenty-two years, showing profound disturbances, incontinence of urine and feces, inability to feed himself, did not speak voluntarily, but had no hallucinations. He showed a minimum of spontaneous movements. In walking he stumbled, sometimes to the right, sometimes to the left. Shortly before death he showed opisthotonus and nystagmus. In the beginning of his illness, he showed paresis of the right lower face. The right leg and the right arm remained quiet during active movements; in general, the strength of the right side of his body seemed diminished. There was no positive paralysis, and no sharp difference in the reflexes. There was no pathologic Babinski sign. There was unmistakable agraphia. Speech understanding was intact. He spoke with toneless voice, moving the lips apathetically, while saliva flowed freely from his mouth. He read many words incorrectly and many correctly. These right-sided symptoms made it appear that he had a left-sided lesion. No diagnosis was made. Under iodide of potassium, the right-sided paresis disappeared, but the agraphia and disturbance in walking remained. After several months' observation, he rapidly emaciated and died. Shortly before death he showed oculo-motor paralysis.

The anatomical findings at autopsy were as follows: Numerous gummata in both kidneys, a luetic scar in the trachea, atrophy of the testicles, adhesions between the scalp and skull from an old scar in the skull, bronchopneumonic areas in both lungs. The outward parts of the cerebrum showed no changes. Internally, both caudate nuclei showed gummatous changes. The areas in the right caudate nucleus did not extend forward further than the head of the nucleus, but the entire body was destroyed. The gumma in the right nucleus was larger than that of the left. The

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tail of the nuclei of both sides was free of disease. Another gumma was found in the forward commissure in the right hemisphere. Another was found between the posterior part of the left thalamus and the gyrus hippocampi, extending into the cortical substance. Another gumma was found in the corpora quadrigemina, another in the pons, and still another in the external origin of the nervus oculomotorius. Nothing else of importance was seen in the cerebro-spinal axis.

This was not a pure case of lesion of the caudate nuclei. The lesions in the nervus oculomotorius explain the paralysis of the nerve endings. The slight aphasic disturbances are accounted for on the basis of the lesion of the left third gyrus frontalis inferior. The remaining symptoms, the temperature elevation, the psychic disturbances, and the motor changes (change in the bodily carriage and walk, atony of the muscles) were due to the caudate nuclear lesions. In other words, the writer concludes that the observation of Edinger that the caudate nucleus presides over the spontaneity of motion, is correct or at least most plausible.

A most important observation in this case by Campbell is the emphasis that he lays upon the fact of absence of paralysis in lesions of the caudate nuclei. Also, attention should be directed to the observation that in this case the reflexes were normal and the pain sensation intact. The other "skin qualities" could not be determined in this case on account of the apathetic mental state of the individual.

HERALDIC symbolism is poetry of a crude sort. In the early guild days, when the grocers and apothecaries were associated, the former adopted a camel bearing spices as their trade-mark, which was appropriate. To this device they added the motto, "God grant grace," evidently intending that alliteration's artful aid should suggest that "grocers" should be inserted between the third and fourth words of that legend. The apothecaries chose a rhinoceros as their emblem, but the hidden meaning, if it had any, is not solvable. The picture for the pharmaceutical diploma drawn by H. P. Briggs, R. A., doubtless from the suggestion of Jacob Bell, was artistic and appropriate, but it covered two anachronisms. The worthy Moslem, Avicenna, is represented with the rod and serpent by which the Greeks indicated their god of medicine, Æsculapius. The Greek gods were abhorrent to the followers of Mohammed. Then with this rod he is pointing to a wreath of medicinal plants, among which is jalap, which did not appear in European physic until several centuries after Avicenna had finished practice. It is, further, somewhat of a pity that the two figures shown in the design are both, it may be said, druggists. One ought to have been a chemist; but as the only suitable candidate would have been Paracelsus, it may be assumed that it was considered too risky, historically, to place him in proximity with either of his traditional antagonists.—*The Chemist and Druggist,* March, 1908).

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EDITORIAL

REFORM OF THE MEDICAL EXPERT WITNESS.

There is a crying need for the reform of the medical expert witness. As constituted at the present time, he furnishes good material for the use of invective on the part of the newspaper editorial writer and is a veritable target for the "funny picture" man of the daily papers. There is a firm conviction (based upon repeated observations) in the mind of the average juror that one can get any kind of medical expert testimony that is needed if one has "the price." And the more money there is to buy this testimony, the more experts can be produced. Under the American system, in a given cause, each side is allowed to introduce as many experts as is "necessary" to "enlighten" the jury on technical medical matters. The average juror is correct in his belief that with money there is no cause so hopeless, no proposition so ridiculous and no crime so heinous but that you can procure a medical witness to swear that there is no cause for action, that the proposition is logical and that there has been no crime committed.

Does this state of affairs mean that the worship of Mammon is so all-powerful that the medical profession as a whole is ready and willing at all times to prostitute itself for mere filthy lucre and swear away its honor for sordid wealth? Or does it mean that medicine in all branches is so empirical and so obscure that there can be an honest difference of opinion on any and all medical subjects?

The ignoble status of the medical expert witness can be explained in no other way, according to the authorities on jurisprudence of this country. Harken to the words of Wharton in his work on "Evidence," Section 454: "When expert testimony was first introduced, it was regarded with great respect. An expert was viewed as the representative of a science of which he was a professor, giving impartially its conclusions. Two conditions have combined to produce a change in this relation. In the first place, it has been discovered that no expert, no matter how learned and incorrupt, speaks for his science as a whole. Few specialties are so small as not to be torn by factions, and often the smaller the specialty the bitterer and more inflaming and distorting are the animosities by which these factions are possessed. Particularly is this the case in matters psychological, in which there is no hypothesis so monstrous that an expert can not be found to swear to it on the stand, and defend it with vehemence. 'Nihil tam absurdo,' which being literally translated means that there is nothing so absurd that the philosophers will not say it. In the second place, the retaining of experts by a fee proportionate to the

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importance of their testimony is now as customary as is the retaining of lawyers. No court would take as testimony the sworn statement of the law given by counsel retained on a particular side, for the reason that the most high-minded men are so swayed by an employment of this kind as to lose the power of impartial judgment; and so intense is this conviction that in every civilized community the retention of presents by a judge from suitors visits him not only with disqualification, but with disgrace. Hence it is, that, apart from the partisan character of their opinions, their utterances, now that they have as a class become the retained agents of the parties, have lost all judicial authority and are entitled only to the weight which sound and consistent criticism will award to the testimony itself. In making this criticism a large allowance must be made for the bias necessarily belonging to men retained to advocate a cause, who speak not as to fact, but as to opinion, and who are selected, on all moot questions, either from their prior advocacy of them or from their readiness to adopt the opinion to be proved. In this sense we may adopt the strong language of Lord Kenyon, that skilled witnesses come with such a bias on their minds to support the cause in which they are embarked, that hardly any weight should be given to their evidence."

Such is the status of the medical witness, in the mind's eye of the bar, bench and public. What are we going to do about it? Shall we point out the immorality of telling lies on the witness stand to members of a learned profession? Shall we advise members of an honorable body to cultivate the faculty of truth-telling and to disdain the fleeting pleasures that go with the possession of wealth? Are not these principles of conduct instilled into every one of us at the knees of our parents? Are they not further expounded from the pulpits of all creeds? Are they not further emphasized as we sit at the feet of our teachers in our medical schools? We must answer, yes, to all these queries. At our medical schools, the student is told to be honest and upright in his dealings with his patients and with his professional brethren. He is instructed in the so-called "ethics" of the profession, drilled in the niceties of conduct in consultation work with his fellow practitioners. But how much is he told of the dangers that beset his path when he is called upon to appear before the bar of justice as a medical witness, ordinary or expert? We venture to say that he is told little or nothing about this. Moreover, he has unfortunately possibly heard of this professor or that professor having acted as an expert in cases from time to time and knows the partisan character of the testimony given by his teacher. Naturally, like master, like man, he follows in his teacher's wake when called upon later on in life to act as an expert.

We would, therefore, offer as a suggestion for the relief of this condition that our medical colleges establish more complete courses on legal medicine; that such chairs be given to men of competence in *medicine,* not

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to lawyers, as is commonly done. Let the subject be hammered into the heads of the students. Let them learn from one of their honorable professors that a physician's views and opinions when given in the white glare of the court room should not differ so immeasurably as when given in the mild light of the sick room. Another step in the right direction would be the formation of medico-legal societies in the large cities where lawyers and doctors could meet and exchange views with the end in view of bringing order out of this present-day chaos. In this way, members of the bar may learn from personal contact with physicians something of *legal medicine* and, at the same time, members of the medical profession may learn something of interest to them from the standpoint of *medico-legal jurisprudence* from their legal brethren. At present, the average lawyer views a doctor who is called to court as a target for his sarcasm and irony, while the doctor in turn looks upon the lawyer as one who has a little knowledge of perhaps the one single medical fact at issue in the case, and consequently hardly deserving of ordinary courtesy when presuming to cross-examine him (the learned doctor) upon the general broad propositions of medicine.

The partisan character of the medical witness' employment necessarily is a heavy burden to bear and high-minded indeed is the man, no matter what his calling may be, who can stand out against it and give opinions contrary to the good of the cause upon which he has been embarked and to protect whose interest he *thinks* he has been compensated. Nevertheless, it is possible for the medical man even to bear this burden and come out honorably if he only will bear in mind that he should give counsel and medical opinion to the jury just as he would were he consulted on these self-same points in the privacy of his consultation chamber. In no other way can this begrimed and besmirched repute of the medical expert witness be cleaned and purified. The limitations of the United State Constitution in respect to the calling of witnesses for an accused person practically forbid the employment of commission of experts alone in settling moot points in medicine as applied to causes at law. Therefore, the slogan of the medical profession should be, self-purification and better medical education.

THE NEW CONCEPTION OF THE EPIDEMIOLOGY AND PATHOGENESIS OF TYPHOID FEVER.

The general conception of the pathogenesis and manner of spreading of typhoid infection in the past has been that the bacillus typhosus enters the alimentary tract through infected food or water, multiplies in the small intestines, producing the pathological picture, as we have seen it at autopsy in the lymphoid tissues of the intestinal walls, and only secondarily invading other structures, such as the gall-bladder, liver, meninges, endocardium, etc. The work of Forster and others has lately demonstrated this

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older conception to be erroneous. According to Conradi, the bacilli are found in the blood of the typhoid patient, even during the incubation period, and even before the finding of the bacilli the anti-bodies may be demonstrated by the precipitin test, as was shown by Fornet. On the other hand, it was shown by these investigators that the bacillus does not appear in the feces until the first and second week of the disease. The bacilli, therefore, do not multiply in the gut, but find their way through the wall of the alimentary tract into the lymphatics, and thence into the blood stream. At a very early stage the bacilli find their way into the liver and bile, and give rise to inflammatory changes in these localities. This has been observed clinically in man, and also after intravenous injections of the organism of typhoid fever into animals. Forster claims that normal bile is not a suitable culture medium for the bacillus typhosus, but when it has added to it the albuminous exudate of inflammatory states, it becomes immediately a splendid pabulum for the typhoid bacillus.

The bacilli that are found in the gut, therefore, in typhoid fever, are mainly those that are thrown out in the bile, coming out of the typhoid-infected gall-bladder and liver. To this, of course, is added, later, the bacilli coming off from the typhoid ulcerations in the intestinal mucosa. We know that in about 2 per cent of all cases of typhoid fever, this cholecystitis typhosa persists and becomes chronic. Consequently, the irregular passage of bile from such a case of chronic cholecystitis typhosa will bring down a certain number of typhoid bacilli into the gut, and thence they are passed out with the feces, becoming possible agents for the production of epidemics of typhoid fever, should they contaminate food or water.

In this connection, we might mention that this possibility of an individual remaining a "typhoid-carrier" for years, because of a chronic infection of the gall-bladder with the typhoid bacillus, finds new confirmation in a case cited by Dean in the *British Medical Journal* of March 7, 1908. The case was a medical practitioner who, twenty-nine years previous to this observation, contracted typhoid fever, recovered from the infection proper, but within three months manifested symptoms of gall-bladder infection in the shape of pain, and a feeling of distention in that region. These attacks recurred at irregular intervals, sometimes associated with jaundice, yet there was never sufficient discomfort to prevent the patient from keeping at the daily grind of medical practice. Dean was inspired to make an investigation of this case, and to this end, examined the feces, identifying an organism therein as the bacillus typhosus by apparently reliable means, to-wit, a highly-motile rod, non-liquefying, did not produce indol; produced acid, without gas formation in litmus-peptone-water media containing glucose, lævulose, galactose, maltose, dextrin and mannite, and no change in arabinose, saccharose, lactose, reffinose, inulin, erythrite and dulcite; it produced acid in litmus milk. No bacilli were found in the urine. The organism was pathogenic for guinea pigs.

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The bacillus was agglutinated by an antityphoid horse serum in a dilution of 1 in 10,000. With the bacillus ordinarily used by Dean in Widal testing, the patient's serum gave an agglutination in 1 to 25 dilution, but failed to do so in 1 to 50 or 1 to 100.

This case, therefore, was a continual menace to the public health of the community in which he lived, because of the exuberance of his unconscious cultivation of the typhoid bacillus in his gall-bladder, and the throwing off of so many pathogenic bacteria in his stools. Just such cases as these, when occurring among such people as bakers, butchers, etc., will explain the sudden breaking out of typhoid in communities where it has been dormant for a long time. The suggestion of Dean is excellent, that the typhoid convalescent should have his stools examined, from time to time, for the presence of typhoid bacilli, and, if they persist, attention should be given to the patient's personal hygiene, with the end in view of preventing him from becoming a focus for a typhoid epidemic at some future time.

HEMOLYTIC ACTION OF DIGITALIN AND STROPHANTHIN.

Digitalin and strophanthin exert a pronounced hemolytic action upon the blood corpuscles, which is readily studied by the aid of a method devised by Dr. Vandevelde, of Ghent.

The substances to be tested are dissolved in 50% ethyl alcohol and the minimum concentrations required to produce hemolysis are determined from a series of experiments. Those solutions which of themselves produce no hemolytic action after three hours, but which become active upon the addition of but the smallest possible quantity of the solution are designated "critical solutions."

The experiments are carried out in small test tubes, a mixture of the three following solutions being used: 1. A solution of digitalin or strophanthin in 50% alcohol containing 0.9% sodium chloride. 2. A suspension of 5% defibrinated ox-blood in an 0.9% solution of sodium chloride. 3. An 0.9% solution of sodium chloride.

Experiments made with digitalinum germanicum (Merck), digitalinum crystallisatum or digitoxinum (Merck), strophanthinum pulveratum and crystallisatum (Merck), showed that the hemolytic properties of the two digitalins are the same in the presence of alcohol; the two varieties of strophanthin are also alike in their action, while strophanthin is less active than digitalin. The activity of the two digitalins is less in aqueous than in alcoholic solution, and the solutions of digitoxin are more active than those of digitalin.—*Apotheker Zeitung.*

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BOOK NOTICES.

THE ELEMENTS OF THE SCIENCE OF NUTRITION. By Graham Lusk, Ph. D., Professor of Physiology at the University and Bellevue Hospital Medical School. Octavo volume of 325 pages. Cloth, $2.50 net. W. B. Saunders & Co., Philadelphia.

KEMP & CO., PRESCRIBERS' PHARMACOPOEIA, a synopsis of the more recent remedies, official and unofficial, with a Therapeutic Index. Sixth Edition. Compiled and Edited by A. Pell, F. C. S. Kemp & Co., Ltd., Wholesale and Manufacturing Chemists, Sassoon House, Elphinstone Circle, Bombay. 1908.

This book was originally intended for the practitioners of India, but it has been revised and enlarged to meet the needs of medical men in general. It is a compilation of all the regular and unofficial preparations arranged in alphabetical order. It contains a number of valuable formulæ for various common illnesses.

CONFESSIO MEDICI.—By the writer of "The Young People." New York: The Macmillan Company, 1908. Price, $1.25 net.

It is rare fortune, indeed, to find a book written by a medical man and for medical men which fairly glistens with philosophical thoughts and bubbles over with the well-written utterances of one so experienced in the ways of medicine, and of the world, as this anonymous writer of "Confessio Medici" proves himself to be. We understand that the writer is a distinguished London physician. We might add that he is a distinguished London metaphysician as well.

The book is written in the form of a series of essays, every one of which is tremendously interesting. The author soliloquizes in a most charming manner, and demonstrates his culture and capacity for deep thought in every line. Such a book as this should prove splendid reading for the doctor as a literary pastime, after being surfeited with reading the technical books of his profession.

CHRONIC CONSTIPATION AND ALLIED CONDITIONS, PATHOLOGY, ETIOLOGY, DIAGNOSIS AND TREATMENT.—By J. Alexander Macmillan, B. A., M. D., Professor of Therapeutics in Detroit College of Medicine; Clinical Proctologist in Detroit College of Medicine; Attending Proctologist to Harper Hospital; Proctologist to German Polyclinic, Detroit; Member of the American Medical Association and American Proctologic Society. The Burton Company, Medical Publishers, Kansas City, Missouri, 1908. Price, $2.00.

The writer takes up the subject of constipation upon a logical basis, reviewing anatomy and physiology of the rectum and intestines, the pathology of diseased conditions in these parts, and then goes into the treatment. There does not seem to be anything particularly striking in the measures and means advocated in the book for the relief of this constipation. The work is a simple reminder of the various means at our command for overcoming chronic constipation. As a reminder of what the doctor *ought* to know, this book will serve its purpose. Beyond that, we believe it can serve no other use on the physician's library table.

MORTMAIN. By Arthur Train, Author of "The Prisoner at the Bar," "McAllister and His Double," etc. D. Appleton & Co.: New York. MCMVII.

This intensely interesting little novel from the pen of Arthur Train brings into play the recent experimental work on artery and nerve suturing. The story deals with the supposed amputation of a hand and the substitution therefor of another hand, the operation being performed by a leading surgeon of London. The story is well told, and holds one's interest from start to finish. It should prove interesting reading for the medical men who wish to refresh themselves in their leisure moments with works of fiction. It is a strange fact that when most lay writers undertake to weave medical or surgical factors into the fiction works of their creation, they usually distort and twist medical possibilities into such shape as to make a professional reader snort and swear at the gross ignorance of the writer who attempts to befuddle the public with such stuff. Arthur Train, however, in this instance, has certainly redeemed the mistakes of his fellow fiction-writers by giving us a surgical episode in full consonance with the most up-to-date and scientific experimental work now transpiring in medicine.

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SURGICAL THERAPEUTICS.—By Emory Lanphear, M. D., Ph. D., LL. D., St. Louis, Mo., Professor of Surgery, Hippocratean College of Medicine; formerly Professor of Operative Surgery in the Kansas City Medical College, and Professor of Surgery in the St Louis College of Physicians and Surgeons. Chief Surgeon to the Woman's Hospital of the State of Missouri. Chicago: The Clinic Publishing Company, 1907.

The writer states in his foreword that the object of the book is to teach readers the management of the non-operative treatment of surgical conditions. The work is alphabetically arranged, not from "A to Z," but from "Abdominal Section to X-ray." In the 370 odd pages of this little work one may find many points of interest and value. As a guide for medical students, it is worth study. As a manual for the general man, it is also interesting. The chapter on the present status of "Wounds" deserves special commendation.

The entire work is in consonance with the modern views of surgery in America.

BRADYCARDIA AND TACHYCARDIA, with complete English abstracts and foreign bibliography. Part II. is a series of monographs on the Symptomatology and Diagnosis of Disorders of Respiration and Circulation.—By Professor Edmund von Neusser, Professor of the Second Medical Clinic, Vienna; Associate Editor of Nothnagel's Practice of Medicine. Authorized English Translation by Andrew MacFarlane, M. D., Professor of Medical Jurisprudence and Physical Diagnosis, Albany Medical College, etc.: 150 pages. Cloth, price $1.25, postpaid. New York: E. B. Treat & Company, 1908.

This book deals with the subjects of bradycardia and tachycardia as entities, and calls attention to points commonly passed over or minimized in the standard text-books on internal medicine. They are vital factors, however, in everyday diagnosis and practice, and they should be earnestly considered by the practicing physicians. These two cardiac disturbances are exhaustively considered in this work, showing how each different infection and constitutional trouble cause a change in the rate of the heart's action.

Neusser's reputation should alone dignify the work as a classic in medicine.

THE SEXUAL INSTINCT, ITS USE AND DANGERS AS AFFECTING HEREDITY AND MORALS.—By James Foster Scott, B. A. (Yale University), M. D., C. M. (Edinburgh University); late Obstetrician to Columbia Hospital for Women, and Lying-in Asylum, Washington, D. C.; late Vice-President of the Medical Association of the District of Columbia, etc., etc. Second edition. Revised and enlarged. New York: E. B. Treat & Company, 1908. Price, $2.00.

In this unique work, the author attempts to give in plain English expression to his thoughts and views on the sexual instinct in men and in women, showing the false position which is held by the majority of people on questions of sexual intercourse, mating of husband and wife, etc. The work contains plain talk, and is intended for the laity as well as the medical profession. Certainly there is a crying need for education of the public along these hitherto neglected lines. The continental countries have many popular works along this line. No one can take issue with the author on any of the points which he brings out. They all seem to be in consonance with the modern science of medicine. The book should be widely read, and will undoubtedly prove a great educating medium, if so read.

BIER'S HYPEREMIC TREATMENT in Surgery, Medicine and all the Specialties; A Manual of Its Practical Application.—By Willy Meyer, M. D., Professor of Surgery at the New York Post-Graduate Medical School and Hospital; and Professor Dr. Victor Schmieden, Assistant to Professor Bier at Berlin University, Germany. Octavo of 209 pages, illustrated. W. B. Saunders Company, Philadelphia and London: 1908. Cloth, $3.00 net.

A great deal has been said and written in the past few months as to the efficacy of the Bier hyperemic treatment of disease. Most of this material has been published in scattered medical journals and has consequently been difficult to concentrate for one interested in the subject. To overcome this difficulty, the present writers, Meyer and Schmieden, have written this volume, dealing altogether to the technique and reports of suitable cases for treatment by the Bier method. Meyer, by the way, has been

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using the method for quite a long time in his surgical practice in New York City, while Schmieden is Bier's assistant in Berlin, and consequently should speak with authority on this important subject.

Perusal of the book and deliberation over the experiences of the journalistic reports of American practitioners leads one to believe that there really is something in this Bier hyperemic treatment. The basis of the treatment is to increase the hyperemic condition in a diseased part of the body with the idea of throwing off the infection (if it is an infection) in nature's own way, *i. e.*, by walling it off. Certainly the plan seems logical. Most important is the technique. This book lucidly explains how the Bier method in all its phases should be carried out. With this book in his possession, any practitioner can carry out the Bier method to his heart's delight and can confirm or refute all that he has heard or read on this subject. The three methods by which hyperemia may be produced, by means of an elastic bandage, by means of cupping glasses and by means of hot air, are fully described in the book.

We can not close this review without saying a word of praise for the elegant appearance of the book and the clever manner in which it is illustrated by photographs showing the different appliances used in the Bier treatment, especially the appliances *in situ* on the patients themselves. Those who are interested in this departure in medicine can find no better method of obtaining an insight into the technical procedures laid down by Bier than by obtaining this book. It is a veritable *vade mecum* of the Bier surgical treatment.

We must acknowledge gratitude to the writers for their extreme conservatism in regards to the success and non-success of this obstructive hyperemic method of treatment. There is no attempt made anywhere in the book to tell the reader to throw hitherto-accepted theories to the winds—there is merely a calm dissertation on what may be accomplished by following out these apparently rational principles.

A Handbook of Suggestive Therapeutics, Applied Hypnotism, Psychic Science.—By Henry S. Munro, M. D., Americus, Georgia. Illustrated. C. V. Moseby Medical Book and Publishing Company. 1907.

The work represents the modern conception of suggestion and its application to therapeutics. It is based upon the authoritative dicta of recognized writers upon this subject, enriched with the personal varied and extensive experience of the author. The book gives first the general theories of suggestion and hypnotism and then takes up the methods of using these measures as therapeutic agents. Dr. Munro shows how the medical practitioner can use the principles of suggestion in his daily practice and how essential it is for every practitioner to use suggestive therapeutics if he expects to cure his patients. He cites numerous interesting and successful intances where a judicious use of this agent resulted in a happy ending of a medical case.

One of the most interesting chapters of this book is entitled "The Brutality of Frankness," and aptly illustrated the foolhardiness of making too grave a prognosis in doubtful cases of sickness. Such a chapter will do a great deal of good for the young medical man leaving the hospital where he has been accustomed to stating bare facts, regardless of the probable effect on his ward patients. The reading of this work will make a better practitioner of every medical man who takes the trouble to go over it.

PAMPHLETS.

"Einfall von Transplantation," by Dr. Richard Muhsam, Berlin. (Reprinted from Deutsche Medizinische Wochenschrift, No. 11, 1908.)

"Ueber Pyocyanasebehandlung der Diphtherie," by Richard Muhsam, Berlin. (Reprinted from Deutsche Medizinische Wochenschrift, No. 6, 1908.)

"Impftuberkulosa der Sehnenscheiden Beim Pflegepersonal," by Dr. Richard Muhsam, Berlin. (Reprinted from Therapie der Gegenwart, March, 1908.)

"Opsonic Index and Active Immunization," by Edwin H. Schorer, M. D., Columbia, Mo. (Reprinted from the Medical Fortnightly, January 25, 1908.)

H. S. Crossen, M. D.—"The Preferable Method of Anterior Fixation of the Uterus when the Abdomen is Open." (Reprinted from the Journal A. M. A., May 4, 1907).

"A Bacteriological and Clinical Study of Seventy-four Cases of Diarrhœa in Children," by J. H. Mason Knox, Jr., and Edwin H. Schorer. (Reprinted from the Johns Hopkins Hospital Reports, Vol. XV.)

Address of Alexander G. Humphreys, M. E., Sc. D., LL. D., President of the Stevens' Institute of Technology, Hoboken, N. J. Delivered at the annual

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dinner of the Alumni, Hotel Astor, February 4, 1908.

"A Study of Hospital and Dispensary Milk in Warm Weather, with Special Reference to Pasteurization," by J. H. Mason Knox, Jr., M. D., and Edwin H. Schorer, M. D. From the Laboratory of the Thomas Wilson Sanitarium, Baltimore. (Reprinted from the Archives of Pediatrics, July, 1907.)

DIETING AND COOKING FOR THE CONSUMPTIVE, AND FOR THE THIN AND UNDER-NOURISHED.—By Thomas Bassett Keyes, M. D. (Reprinted from "The Antiseptic," Madras, India. Vol. IV, Nos. 6 and 7, June and July, 1907).

This article gives a history of the disease tuberculosis, and argues for the use of fats in building up the patient.

THE SAFETY OF THE SCHOOLS. Published for the Information of the Parents and the Public by the Board of Education of the City of St. Louis.

This little pamphlet was published by the School Board of St. Louis to reassure the people of St. Louis that the children of that city are protected as fully as can be done against danger from fire. Owing to the uproar in the yellow press after the terrible destruction of young lives in the burned school building at Cleveland, Ohio, recently, this little book ought to be comforting to the parents of St. Louis school children. The book shows that fire-proof buildings are now being erected, that fire-drills are practiced daily, schools are inspected by experts, all doors open outward; there are no unlocked exits, and staircases will be isolated.

PRELIMINARY PROGRAM AMERICAN PROCTOLOGIC SOCIETY.

The tenth annual meeting will be held in Chicago, Ill., June 1 and 2, 1908, at the Palmer House, Monroe and State streets.

PROGRAM.

Monday, June 1.—Executive Council meets at 11 a. m. First regular session at 2 p. m. Annual address of the President.

PAPERS.

1. The Treatment of Choice of Stricture of the Rectum, by Wm. M. Beach, Pittsburg, Pa.

2. Amebiasis: Its Symptomatology, Diagnosis, Sequellæ and the Use of Formalin and Copper Phenol Sulphonate in its Treatment, by John L. Jelks, Memphis, Tenn.

3. (*a*). Physiology of Defecation. (*b*). Report of a Case of the Extraction of a Plate with False Teeth from the Sigmoid, by Sam'l. T. Earle, Baltimore, Md.

4. The Treatment of Chronic Constipation, Including a Consideration of Obstipation, by Sam'l. G. Gant, New York City, N. Y.

5. Dysentery, by Jos. M. Mathews, Louisville, Ky.

6. Galvanic and Faradic Electricity in the Treatment of Hemorrhoids, Fissures, Prolapse, Ulceration and Non-Malignant Stricture of the Rectum, by Wm. L. Dickinson, Saginaw, Michigan.

7. The Choice of an Anæsthetic in Anal Surgery, by Jerome M. Lynch, New York City, N. Y.

8. Chronic Multiple Punctate Ulcers of the Rectum, by J. A. MacMillan, Detroit, Michigan.

9. Benign Tumors of the Rectum, by T. C. Hill, Boston, Mass.

10. Profound Peri-Rectal Abscess, by Collier F. Martin, Philadelphia, Pa.

11. Surgery of Special Diseases of the Rectum, by Geo. B. Evans, Dayton, Ohio.

12. (*a*). Report of Cases: Profound Secondary Anemia from Internal Hemorrhoids (Six Cases). Gangrene of the Rectum from Self-Treatment of Internal Hemorrhoids (One Case). (*b*). Presentation of New Examining Speculum, by Dwight H. Murray, Syracuse, N. Y.

13. Spontaneous Intestinal Anastomosis, by Jas. P. Tuttle, New York City, N. Y.

14. Mesosigmoidopexy, with Report of Two Cases, by Louis J. Hirschman, Detroit, Michigan.

15. Carcinoma of the Rectum; Comparative Results of Operative Procedures, by J. Rawson Pennington, Chicago, Ill.

16. Primary Melanotic Sarcoma of the Rectum with the Report of Two Cases, by Louis J. Krouse, Cincinnati, Ohio.

17. Some Colonic and Sigmoidal Conditions, by Edwin A. Hamilton, Columbus, Ohio.

18. Rectal Hemorrhage Due to Capillary Varicosity, by B. Merrill Ricketts, Cincinnati, Ohio.

19. Valvotomist and Valvotomy as a Fad and Fallacy, by Leon Straus, St. Louis, Mo.

20. Rectal Diseases, a Report of Three Cases: Condylomata, Lipoma, and Dermoid Cyst, by Lewis H. Alder, Jr., Philadelphia, Pa.

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CLINICAL NOTES.

ABBOTT'S NEW LABORATORY.

"Nothing succeeds like success." Another mile-stone in the progress of The Abbott Alkaloidal Company is marked by the completion of their new laboratory. This is the finest building of its kind in the country for supplying the needs of the doctor. It is absolutely fireproof, reinforced-concrete construction, with every modern improvement and up-to-date equipment.

We suggest that our readers send to The Abbott Alkaloidal Company, Chicago, Ill., for their new price list which is now ready for distribution. There is much of interest and value in this list for every progressive physician.

ANOTHER MASTERPIECE FOR DR. PILZ.

A life-size female manikin, with an obstetrical supplement showing fecundation from the first month to complete term, is described in a booklet issued by the American Thermo-Ware Company, 16 Warren street, New York City. This booklet will be sent on request. The manikin can be hung on the wall, closed, occupying the space of a picture.

PERITONITIS-SALPINGITIS.

Albert F. Conrey, M. D., Baltimore, Md., reports an interesting account of a woman who, after the fifth month of pregnancy, induced a miscarriage by passing a bougie into the uterus. She came under observation in a septic state, was curetted, but her symptoms persisted. A large abscess formed in the posterior cul-de-sac, which was freely incised and packed with 50 per cent Glyco-Thymoline gauze. Recovery was uneventful thereafter. He reports another case of abscess in the cul-de-sac resulting from a ruptured ectopic pregnancy. This was drained and packed with 50 per cent Glyco-Thymoline gauze, with equally successful results.

STEAMED BABIES.

With the approach of summer comes the chafing infant whose soiled diaper, under an overabundance of clothing, steams the delicate skin until it is as red as a lobster. Pulvola Toilet Powder is the doctor's baby powder, and where he prescribes it there is comfort; for, being neither a starch nor talcum, but a stearate of magnesia, it does not form the little rolls of pasty powder to aggravate the already inflamed skin under the steaming diaper. Ten years of use in baby hospitals is demonstration enough. Prescribe.

PRUNOIDS.

The following letter from Dr. James P. Hawes, of Valois, New York, is typical of the complimentary expressions the Sultan Drug Company, of St. Louis, is receiving regarding their new product, Prunoids: "I have practiced medicine for twenty years, and all that time I have been looking for a laxative that would be pleasant to take, do its work nicely and *quit* there. I have never found it until Prunoids came. So pleasant to take, and, by all comparison, the best that I have ever used." The Sultan Drug Company will be pleased to send sample of Prunoids to any of our readers who will mention this journal.

PEACOCK'S BROMIDES.

Peacock's Bromides is the finest bromide preparation on the market. The salts entering its composition are far superior to commercial bromides. This is easy to prove, and has been proven by analyses. Thus extemporaneous mixtures and substitutes are inferior to Peacock's Bromides, and, by the way, this accounts for the success achieved by Peacock's Bromides. Each fluid drachm contains fifteen grains of bromides.

PABST EXTRACT, THE "BEST" TONIC.

Few preparations offered to the physician are a more palatable and gentle but fine stimulant than Pabst Extract, The "Best" Tonic. Agreeable to the taste, Pabst Extract, The "Best" Tonic, particularly lends itself to the use of patients demanding a tonic which is not disagreeable to take. Not only is the percentage of alcohol contained in it extremely low, but, as well, it is especially rich in blood-building qualities, containing, as it does, an easily assimilable iron. Readily taken up by weak stomachs, it may be safely prescribed for patients who are troubled with digestive disorders; and rich in the soothing and toning properties of choicest hops, it is difficult to overestimate its beneficial effects as a creator of appetite and a producer of slumber. At the same time, the way in which the nourishing qualities of the barley malt pave the way for other heavier and more solid foods, is worthy of note. In the treatment of such ailments

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and conditions as insomnia, dyspepsia, anæmia, nervousness, pregnancy, and the general run-down condition, the physician can hardly afford to overlook Pabst Extract, The "Best" Tonic.

NOITOL IN ECZEMA.

Noitol is a remedy which overcomes the local inflammation in eczema, and at the same time it has no equal in stopping the itching which destroys sleep and often transforms the life of the eczematous patient into a nightmare. It is used in the various kinds of eczema, eczema rubrum, eczema siccum, eczema capitis, etc. Noitol is applied to the diseased areas three or four times daily. Its use will be attended with rapid success. As in all methods of treatment, some attention should be directed to the correction of dietary errors.

CALIFORNIA EXAMINATION QUESTIONS.

Medical examination held at the College of Medicine of the University of Southern California, 737 Buena Vista St., Los Angeles, December 4, 1907.

ANATOMY.

1. The scalp: (a) What difference exists between the skin of the scalp and the scalp proper and how is the mobility of both affected by their anatomic structure? (b) Why is it that cutaneous wounds of the scalp do not gape, while wounds of the entire scalp do? (c) Why is it impossible to close large cutaneous defects in the scalp by uniting the edges of the wound? (d) What are the characteristics dependent upon anatomic structure, of an effusion of blood or of a suppuration in the scalp? Beneath the scalp? (e) Why does the skin of the scalp bleed more profusely after injury than that of any other cutaneous area? Why do large flaps in this situation adhere more readily than elsewhere?

2. The spinal column: (a) Which are the primary and which the compensatory curves of the spinal column? Why? (b) Indicate the direction of the facing of the articular processes of typical cervical, dorsal and lumbar vertebræ and describe how this governs the characteristic movements of each portion of the column.

3. Give examples of (a) elastic and inelastic ligaments. (b) Muscles acting as ligaments. Name three joints having interarticular fibro-cartilages. Locate the following ligaments: Orbicular cotyloid, glenoid, crucial.

4. Locate the lymphatic glands of the head and neck.

5. Five problems in nerve distribution. Name the nerve and muscle or muscle group involved in the following: (a) Abduction and adduction of the fingers. (b) Movement of the scapula forward on the thorax, as in pushing. (c) Flexion of the foot on the leg. (d) Lifting the upper eyelid. (e) closing both eyelids.

6. What vein may, under certain circumstances, transmit the blood from the lower half of the body to the heart when the circulation is disturbed in the trunk of the inferior vena cava? What path does the blood take in such a case?

7. Give the surface outlines of the liver and tell what viscera are in relation with its inferior surface.

8. Give the surface outlines of the spleen and tell why its superior and posterior borders are not determinable by percussion.

9. Locate five serous sacs enveloping organs.

10. The knee: Describe the topographical anatomy of the knee, mentioning its bony landmarks, tendons, synovial membrane and bursæ.

HISTOLOGY.

1. Name the layers of the retina.

2. Describe the histological structure of the thyroid gland.

3. Draw a diagram of a cross section of the skin showing histological structure.

4. Describe the histological structure of the suprarenal glands.

5. Describe the phenomena of indirect cell division or karyokinesis.

6. Name the different forms in which connective tissue occurs.

7. Describe the histological structure of the liver.

8. Identify two specimens.

9. Identify two specimens.

10. Identify two specimens.

PHYSIOLOGY.

1. Tell what is known of the chemistry of respiration.

2. Describe the digestion and absorption of fats.

3. What are the origin and significance of urea?

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4. Name and locate the papillæ of the tongue. 5. Discuss in a general way the use of the knee-jerk as a diagnostic sign.

6. Describe the course, distribution and function of the chorda tympani nerve.

7. Trace the course of the pyramidal tracts through brain and cord.

8. Diagram or describe the direction of degeneration on section of the anterior and the posterior root, respectively, of a spinal nerve.

9. Where are the following centers: (a) visual, (b) respiratory (c) micturition, (d) auditory, (e) parturition.

10. Define: (a) colostrum, (b) emmetropia, (c) autolysis, (d) diapedisis, (e) hemolysin (f) lochia, (g) osmosis, (h) alexins, (i) atavism, (j) zymogen.

CHEMISTRY AND TOXICOLOGY.

1. (a) Give formula for chloroform. (b) Give formula for boric acid. (c) Name $C.H_3.O.H$. (d) Name $C_2H_5O.H$.

2. (a) Describe potassium, its use and how prepared. (b) Define basic salts.

3. (a) In acute yellow atrophy of the liver is the specific gravity of the urine higher or lower than normal? (b) Under what conditions are phosphates increased in the urine?

4. Name in order the juices that act upon the food, in the alimentary tract, enzymes and action of each.

5. (a) For analysis of stomach contents, give test meal and how long after taking it should the contents be collected? (b) Is the true gastric juice produced when digestion is not going on? (c) Does pepsin exist in the gastric juice at all ages?

6. (a) Name what would be classified as organized sediment of urine. (b) Unorganized sediment.

7. (a) What is the normal ratio of uric acid as compared to urea? (b) Describe test for uric acid.

8. In a case of suspected poisoning, fatal termination, give briefly what you would do with respect to preparing and preserving evidence for the toxicological chemist.

9. Symptoms: Constriction of the throat, nausea, giddiness and confusion of sight, mouth covered with foam, eyes glassy, expiration prolonged, inspiration shortened, peach-blossom odor of breath; death occurred in four minutes. Name the poison and give formula.

10. Give treatment for arsenous oxid poisoning, and why.

BACTERIOLOGY.

1. Name three culture media (omit agar); (a) Describe accurately the manufacture of agar media.

2. What is the Widal reaction? (a) state its significance. (b) Describe accurately the steps you would take to obtain it.

3. State the morphology of the specific organism of plague. (a) channels of infection; (b) microscopical appearance on one stated culture media. (c) maximum and minimum temperature consistent with vitality of organism.

4. Name three antibacterial serums in common use: (a) State theory of their action. (b) What is an homologous vaccine?

5. Define the following: (a) Phagocytosis. (b) Chemotaxis. (c) Opsonin. (d) Lysin. (e) Ptomaines.

6. Describe the technique of staining with Gram's method: (a) State its significance. (b) Give formulæ of solutions used.

7. Give ten different varieties of pyogenic organisms with their microscopical characters.

8. State accurately the steps you would take to stain, mount and examine a specimen of (a) sputum from an advanced case of tuberculosis. (b) Section through a diphtheritic membrane in the trachea. (c) Describe and differentiate the organisms found by their staining.

9. Examination of two slides.

10. Examination of two slides.

PATHOLOGY.

1. Give the gross pathology and bacteriological findings in bubonic plague.

2. Describe the lesions in valvular endocarditis; what are the most frequent sources of infection, and name the common exciting agents?

3. What are the most frequent causes of chronic interstitial pancreatitis; what pathologic physiology results? What are the islands of Langerhans?

4. Describe the microscopic structure and complete evolution of a miliary tubercle and the effect of tuberculin injections upon it.

5. What are the usual autopsy findings in chronic interstitial nephritis?

6. Describe the process of bone invasion in tuberculous osteitis, involving a joint.

7. In pulmonary infection with the diplococcus lanceolatus, what complicating lesions may occur in other organs.

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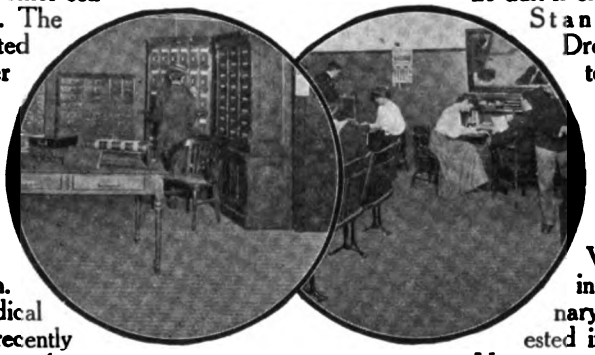
THE DANGER OF DISEASE-LADEN DUST IN PUBLIC PLACES.

PROPER TREATMENT OF FLOORS THE ONLY REMEDY.

AN interesting feature in connection with the present crusade against the great White Plague is the prominence given to the danger of contagion from disease-laden dust. In nearly all public buildings, railway stations, trains and electric cars there are Board of Health regulations against expectoration. The justice of these rules is immediately apparent when it is explained that the dust in all public places is impregnated with the Bacilli of Consumption, Diphtheria, Typhoid, Pneumonia, and other contagious Diseases. The germs are wafted about, together with the dust, by every current of air, and medical research clearly demonstrates that they readily find lodgment in the human system.



A leading medical authority has recently stated that "one out of seven of all the people who die is prematurely carried off by tuberculosis, and a large proportion of these through *dust-poisoning*, which, *if we choose, we can largely prevent.*"

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8. Name in the order of frequency the tumors of the adult female breast.
9. Microscopic pathologic specimen.
10. Gross pathologic specimen.

HYGIENE.

1. Describe and discuss prophylaxis in plague.
2. Describe and discuss prophylaxis in typhoid fever.
3. What diseases may be produced by the ingestion of meat?
4. What measures would you advise for the disposal of the dead from contagious diseases?
5. What is the required air-space in a hospital ward?
6. Describe a modern method of ventilating a hospital.
7. What is the period of quarantine required after the latest exposure of infection in (1) plague, (2) diphtheria, (3) scarlet fever, (4) smallpox?
8. When does the period of infection cease, in (1) chickenpox, (2) smallpox, (3) measles?

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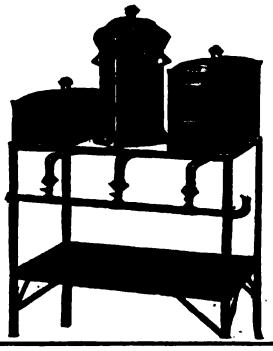

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9. Describe a septic tank, and explain the principles involved.

10. Describe the artificial feeding of an infant aged ten days.

OBSTETRICS.

1. Describe the difference in appearance of a fœtus of three months and one of five months?

2. Name three of the most common causes of miscarriage up to the fourth month; the best means of preventing and the treatment of each.

3. What class or kind of substances, if any, pass unchanged from the blood of the mother to that of the child during pregnancy?

4. Name ten drugs which, if given to the mother during pregnancy, may have an injurious effect on the unborn child?

5. Under what circumstances is it advisable to convert a breech into a foot presentation?

6. What are the indications for the use of forceps during labor?

7. Name three pathological conditions which may simulate pregnancy before the end of the fourth month; give differential diagnosis of each from pregnancy and best treatment of each condition.

8. Give the symptoms of rupture of the uterus during labor; the most common causes, the best means of their prevention and the treatment if it occurs?

9. Name five indications for the termination of pregnancy before the eighth month?

10. Name three kinds of pathogenic bacteria which most commonly cause puerpural infection; the clinical and diagnostic symptoms of each and the best treatment of each.

GYNAECOLOGY.

Examination of December 3, 1907.

1. What is vaginitis and name six causes?

2. Define vaginismus and name three causes?

3. How would you treat chronic endocervicitis?

4. Describe briefly the treatment of complete laceration of the perineum?

5. Name five varieties of dysmenorrhœa from the standpoint of origin?

6. How would you distinguish between a case of prolapsus uteri and an hypertrophied cervix?

7. Give cause and treatment of pruritis vulvæ?

8. Name five diseased conditions found in the labia majora?

9. Give etiology and treatment of vesico-vaginal fistula?

10. Differentiate briefly between: hematometra, uterine fibroid, malignant growth, ovarian cyst and pregnancy? (Use parallel columns.)

GENERAL DIAGNOSIS.

1. On what signs and symptoms would you make an early diagnosis of pulmonary tuberculosis?

2. Describe leukæmia and mention the pathological changes occurring in this disease.

3. Give etiology and clinical findings in plague.

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4. Give differential diagnosis between aortic regurgitation and mitral regurgitation.

5. Make a differential diagnosis of coma from injury, apoplexy, uræmia, opium poisoning and alcoholic intoxication.

6. Differential diagnosis chancre, chancroid and herpes progenitalis.

7. Differentiate conjunctivitis, iritis, glaucoma.

8. Differentiate general paralytic dementia of the insane and paranoia.

9. Make a diagnosis of locomotor ataxia.

10. Describe herpes zoster.

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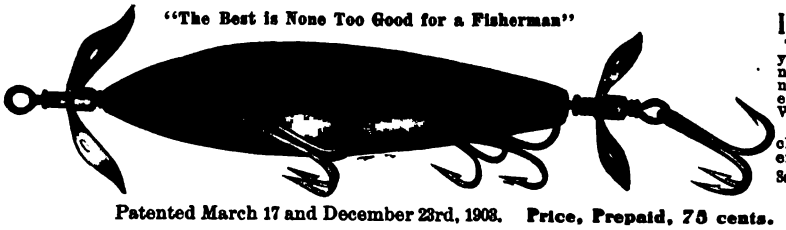

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., JUNE, 1908. No. 6.

THE CLINICAL USE OF RADIANT ENERGY FROM THE HIGH-POWER INCANDESCENT LIGHT.*

BY ALBERT C. GEYSER, M. D., New York City.

Instructor in Radiography and Radiotherapy at Cornell University Medical College; Lecturer in Electrotherapy and Radiography at the New York Polyclinic; President of the New York Physical Therapeutic Society; Secretary of the American Electro-Therapeutic Association; Member of American Medical Association, Greater New York Association, Bronx Medical Association, Manhattan Dermatological Society, Roentgen Ray Society, etc.

GENTLEMEN: Before beginning our clinical work, I must again call your attention to the oft-repeated statement, "It is not the agent, but the reaction of the body to the agent." Never, for a moment, lose sight of this dictum.

The agent to be employed is always a secondary consideration; your first thought, as far as therapeutics are concerned, must always be, What is the reaction desired in this particular case? Your next consideration is, What agent is best calculated, therapeutically, to cause the desired reaction?

Time and again have I demonstrated to you that there are only two pathological states possible in any organ, part of the body, or even the whole body. Either the part is in a state of over-activity or under-activity. No matter which of these two states is present, it is our endeavor to produce just enough of the opposite state to cause that activity to assume the normal.

In the treatment of disease conditions, our first consideration is to remove the cause, if still active, or the effects of the cause, if the cause is not active or can not be removed. Again, unless our therapeutic measure is based upon a preceded diagnosis, we must expect failure in therapeutic results; not only that, having made a correct diagnosis, our therapeutic measure must be a logical sequence to the symptoms presented.

We will begin our clinical work with a new patient:

Case 1—Mr. S., how old are you? "Sixty-three years." How long have you suffered from your present ailment? "About six weeks." Tell

* Stenographic report of a lecture on the use of radiant energy from high-power incandescent lamps, delivered to the students at the Electrotherapeutic Department of the New York Polyclinic, February 7, 1908.

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us all about it and how it began. "About six weeks ago I was suddenly taken sick, became unconscious, and remained so for several hours. Upon recovering consciousness, I found that I had lost the use of my right arm and leg; I remained in bed for ten days. Since then there has been no change in my condition to the present."

(Mr. S., now walk up and down the room). Gentlemen, do you notice that the patient drags his right foot and makes a scraping noise by the contact of the sole of his shoe upon the floor? Notice, again, that since the patient's attention was directed to the noise, he now walks without the noise, but, instead, tilts his pelvis to the left, and brings his right leg forward with a swinging motion, showing, as he has correctly stated, that he has lost the free use of his leg.

Upon attempting to flex the arm or extend it, we find a spastic condition upon the right side, while the left arm is quite free and lax. The grip of his right hand is quite feeble as that compared with his left. (Mr. S., remove your clothing down to the waist.) There is no atrophy. In making an electrical examination, always begin with the faradic current. We place the indifferent electrode over the spinal origin of the to-be-tested nerve, and with the active electrode touch the motor points of all the affected muscles. You notice they all respond in a normal manner. We know, therefore, that we are not dealing with a reaction of degeneration. Upon testing the patellar reflex, we find increased tone and exaggerated movements. We have, then, besides the patient's history, five cardinal points. They are: A paralysis extending over a large area, no atrophy in any of the muscle groups, a spastic condition upon the affected side, exaggerated patellar reflexes, and normal electrical response to the faradic current. Upon this information we make the diagnosis of hemiplegia, with a central lesion located below the division of the motor branches of the face.

What, then, is the indicated treatment? The text-books inform you that potassium iodide is the only drug indicated, with perhaps strychnin for a tonic. The potassium iodide is given for the purpose of assisting the absorption of the clot. Its manner of action has been pointed out to you so many times that you are thoroughly conversant with its good, but especially its baneful, effects upon the system. We have a much surer and better agent for the purpose of absorbing the blood clot. Our aim is to heat, and, at the same time, increase the speed of the circulatory cycle. We expose the bare back of the patient to the action of radiant light and heat, as furnished by this high-power incandescent lamp. The lamp is kept in constant motion all over the back, at a distance of about two feet from the parts to be treated. During the first few minutes, the patient may be very suscep-

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tible to the heat. Always treat the patient first, the condition secondarily. I mean thereby, consult the feelings of the patient. After a few minutes, the patient is not so susceptible to the heat, and is able to stand a close application very much better. The system has reacted to the intense local light and the heat, the heated blood is removed quicker, and cooler blood substituted; the patient breaks out in a more or less profuse perspiration, showing that the whole system is brought into play for the purpose of cooling the locally-heated area. The capillary circulation over the back has, by this time, become enormously distended, favoring the blood-flow to the periphery, and so lessening the central pressure. The heated blood now bathes and gradually softens the periphery of the blood clot in the motor cortical zone, and tends to absorb it.

By causing these muscles to perform their physiological function, we accomplish that for which the strychnin is given, without subjecting the entire body, and all its organs, to the influence of so potent a drug. The entire procedure should be repeated at least every other day, and extended over a long time, or until the normal at least has been re-established.

Case 2—Miss O., telephone operator. Complains of acne vulgaris of some years' standing. This patient presented herself at this clinic four weeks ago. The patient was treated with the X-ray for the purpose of inhibiting the over-activity of the sebaceous glands; this was accomplished two weeks ago. For the past two weeks she has been exposed to the action of this radiant energy, at each treatment with the lamp as close to the face as she could bear it. The result, as you can see, has been most satisfactory. The enormously-increased circulation has removed all the detritus, which had become softened, and, therefore, easily removed. Many of these patients get well in the summer, when the face can be exposed to the action of sunlight, without any other treatment; but in the winter, or in cases of patients who are obliged to work, and can not devote the necessary time for an outdoor life, something of a substitute must be had. The combined effect of the X-ray, and, later, the high-candle-power incandescent lamp, will cure most cases subjected to treatment.

Case 3—Mr. M., age twenty-two years, clothing cutter. For the past six months complained of pain in his right shoulder and arm. There was no history of trauma; it came on gradually and spread from the forearm to the shoulder. Before coming to this clinic, he was treated for rheumatism of the shoulder. The word "rheumatism" covers much ignorance. Upon physical and electrical examination, it was discovered that only the nerve seemed to be more tender than normal. The pain and weakness is due to a peripheral neuritis—an occupation neuritis. This patient came here one month ago, and was treated every other day as now, by subjecting the shoulder and arm to the action of radiant light and heat,

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merely for the purpose of aiding the metabolic changes in the affected region. Today, one month after such simple treatment, the patient declares himself free from all pain, and ready to again resume his vocation, which is not the best thing to do under the circumstances, but he is obliged to earn a living.

Case 4—Mr. B., age sixty-five. Two years ago, developed a "gradually-coming-on-pain" in left hip, walking became more and more difficult. At the end of a year the pain was intense, preventing sleep. The usual remedies were prescribed—massage, liniments, blisters, etc.—but all to no avail. Two months ago, patient was advised by the orthopedic surgeons to go to bed for six weeks with a continuous extension on the limb. Owing to the liability of a hypostatic pneumonia developing in a patient of his age, this advice was not followed. Four weeks ago this patient came under treatment in this clinic. The case was diagnosed as spasm in the muscles of the hip, the result of trauma. There is no agent known that will relieve muscular spasm more surely and more permanently than local light and radiant heat from a high amperage source. The sacral region and hip were exposed for fifteen to twenty minutes to the action of this radiant energy, on alternate days. Today the patient declares himself as perfectly well, has no ache or pain, and walks without assistance. In cases of this kind, two considerations confront us—the spasm and the consequent inanition of the parts. Both of these conditions are beautifully met by the application of light and heat from a high-power incandescent lamp.

Case 5—Miss R., age seventeen years. One and a half years ago fell and injured the elbow. The patient, apparently, recovered from this for the time being. Six months after the injury the arm began to pain, especially at night. The various clinics were then visited; she was treated for rheumatism with internal medication, without results. The actual cautery was applied over the arm for a supposed existing neuritis, without results. Finally, she appeared at this clinic. (Before any treatment is instituted in this clinic, it is our rule to make a correct diagnosis, and I can not impress upon you too often the necessity for this.) We found here a joint with limited extension, as well as flexion, coming on at least six months after an injury, the elbow joint appearing enlarged, and feeling hotter than the normal one. Upon closer investigation, we found muscular spasm surrounding the elbow joint. An X-ray was taken, and this at once cleared the diagnosis. We are here dealing with a tubercular elbow joint, the lesion being in the lower end of the humerus.

What are, then, the indications for treatment? Just three, and Nature is trying to supply these as best she can, so by following out natural laws we will be led to the correct therapeutic measure; the spasm indicates much-needed rest, which we accomplish by placing the elbow in a light plaster splint; the swelling indicates that additional or extra nutrition is

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required; while the heat is a consequence of this extra blood present, and, at the same time, indicates increased metabolic changes. These last two conditions are met by active and passive hyperemia. The splint has been cut, so as to present a lower and upper half. The upper half only is removed, and the light and heat from the lamp cause an active hyperemia in about fifteen to twenty minutes' exposure, to the point of tolerance of the patient. The upper part of the splint is now replaced, and a rubber bandage is snugly applied above the cast, thereby limiting the return flow of the blood, and so causing a passive hyperemia, according to the Bier method. After the second treatment the patient rested comfortably, and has had no pains since then. This treatment must be continued for at least one or two years, and I am safe in saying that if it is persisted in, every tubercular joint is curable.

Case 6—This patient, a woman of fifty-five years, came to this clinic one month ago with a chronic ulcer covering the entire lower leg, from three inches below the knee up to the outer malleolus. She gives a history of having had this for nearly fifteen years, and that she has had more freedom from pain during the last month than for the past year. What, in your opinion, is the underlying condition, over- or under-nutrition? If it is subnormal, then the indicated treatment is simple. We must increase the local nutrition. There is no surer way than by the use of light and heat. All of you can see how the margin is beginning to be covered with healthy granulation tissue. The patient declares herself free from pain, and in the course of another month we will have this ulcer entirely healed over. Keep the lamp in constant motion, about twenty to twenty-five inches from the parts, for about fifteen minutes, to the tolerance of the patient. As simple as the technique, so sure is the result.

Case 7—Another case of chronic leg ulcer. This woman, fifty-nine years old, has been under treatment with the lamp for the past three months. You can all see the margin of the original ulcer, which is now completely healed over. She will continue the treatment once a week for another month, when she will be discharged as cured. Mrs. Mc., how long did you have an open leg before coming here? "Shure, Doctor, its that long ago I could not tell ye." Have you any pain there now? "Not a bit, Lord bless ye, from the first day ye turned that sun on me."

Case 8—Mrs. M., sixty-two years of age. Three years ago began to feel weak, lost her appetite, and for nearly one year was treated for malaria without results. Then the spleen began to enlarge, and her doctor made a blood examination. Splenic leukemia was diagnosed, treated with iron, quinia, strychnine, or tonic treatment (?). Finally, she was treated with the X-ray, but evidently a little too vigorously, for as you see she presents a radio-dermatitis over the entire abdomen. A radio-dermatitis is, perhaps, the most rebellious lesion of all the skin lesions we have.

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This patient is subjected to the rays from a high-power lamp, but the light is screened off with the blue-glass screen, allowing none but the blue rays to fall upon the ulcer. The slough has dried, and the edges look healthy. If this patient has nothing else to be thankful for, it is the fact that she is rid of the agonizing pain of a radio-dermatitis. In my experience, there is no one agent that will stop the pain and heal the lesion as quickly as the blue rays from an incandescent lamp..

Case 9—Mrs. R. is the mother of the little patient, one year old. The boy, soon after birth, broke out all over the entire scalp and face with scabs and crusts. This, as the mother tells us, was treated with internal and external medication. The more the baby was treated the worse the disease became. Six weeks ago the patient was brought to this clinic, and a diagnosis of eczema seborrhoica was made. The diet could not be changed, because the baby was nursing, and the mother appeared healthy. A simple ointment of lanoline, with 2% carbolic acid, was ordered for an external application. The baby is exposed to the blue light every other day for fifteen to twenty minutes, or until a gentle perspiration is visible upon the forehead. Under this treatment, the lesion has practically disappeared. The baby has increased in weight, eats and sleeps regularly, and the mother is happy.

In conclusion, I wish to impress upon you again the fact that Nature tends always toward a cure; by making a positive diagnosis, and noting the attempts of Nature in her effort to cure, we are seldom wrong if we simply assist Nature in her effort, rather than blindly trust to luck, and do something which may hinder the natural method of cure.

158 W. 7th street.

FRACTURES OF THE UPPER EXTREMITY OF THE FEMUR.

By Chas. Blickensderfer, M. D., Tecumseh, Okla.

[Written for the Medical Brief.]

Fractures involving the upper extremity of the femur, on account of the high mortality rate attending them, and the consequent impairment of function, with deformity following; the prolonged and difficult treatment necessary to effect a restoration of function and contour to the injured member, are subjects for special consideration of the surgeon.

Under this term are included fractures of the head, neck and trochanter, with epiphysieal separations of the head and trochanter major, and fracture through the great trochanter.

By the term fracture is meant a solution of continuity of bone or cartilage, recently or suddenly made. The causes operating to produce fracture of the femur are the same in general as those serving to produce fractures elsewhere, and are to be divided into predisposing, pathological and active or determining.

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The predisposing causes are age, sex, season of the year, occupation and inherited liability.

In that class of fracture under consideration, age is the most potent factor, at least sixty per cent occurring after the sixtieth year. Bones of the aged, and especially the neck of the femur, from a thinning of the cortical layers and an enlargement of the meshes of the spongy portion, with increased deposition of fats, are rendered easy prey to those forces constituting the active or determining causes. This thinning of the bone is known as interstitial atrophy, or osteoporosis, and is thus a natural predisposing cause. But when marked in the middle-aged or extreme in the old, it is generally classed as a pathological condition predisposing to fracture.

Sex is also an important factor, especially in the aged, for in fractures of the neck, the females so far preponderate over the males that this injury has been styled "Old Woman's Fracture." The reason for the greater frequency of this fracture in this sex is to be found in an anatomically smaller and weaker bone in the female subject; and the process of rarefaction that is usually manifest after the fiftieth year is more marked in females than in males.

In fractures of every class, the greater number occur in the open or warmer months of the year. This is owing to the greater physical activity indulged in during the months when outdoor exercises and occupations are at their maximum. In fractures of the neck of the femur, however, the larger number are the result of falls and other accidents during the colder months of the year. This is no doubt due to slipping and falling upon icy and wet surfaces, and to the fact that old people endeavor, after being closely housed during the colder days of the winter, to take exercise on every fair day, their desire for activity at this time exceeding that of the warmer seasons of the year.

Occupation is not a very prominent predisposing cause in fractures of the neck, except when this accident occurs in young adults, when such occupations that involve the manipulation of moving bodies or heavy weights, or the transportation of materials of whatsoever kind, incline to this, but in less degree, than to the remaining classifications.

An inherited liability and a congenital predisposition without inheritance, may be mentioned as unusual predisposing causes to fracture, but a sufficient number of these causes have been tabulated by Gurlt to justify their mention as surgical possibilities.

The pathological causes are caries, necrosis, osteomyelitis, osteoporosis, fragilitas ossium, osteitis deformans, echinococcus, actinomycosis, syphilis, tuberculosis, atrophy from disuse or circulatory defects, fatty degeneration, chronic mercurialism, rheumatism, gout, osteomalacia, tabes dorsalis, general paresis, carcinomatous and sarcomatous degenerations and any

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tumor affecting the nutrition of the bone, together with diseases affecting the trophic nerve centers.

About a year ago the writer was called to see an old lady, seventy-two years of age, who suffered from a carcinoma of the left breast. In changing her grandchild from one arm to the other she fractured her right humerus, and a few days later, upon attempting to rise from her rocking chair, she fractured the neck of her right femur.

With the exceptions to be found only in the young adult or the youthful, the exciting or determining causes are usually the exhibitions of slight force operating upon the hip, directly or indirectly, being sufficient, in most instances, to the production of this injury. A misstep, a trip, or a fall upon the trochanter; twisting the body upon the legs, or any forced or sudden movement of the limb upon the trunk. Stepping from a higher to a lower level, or, in short, any force, slight or otherwise, applied vertically upon the sole of the foot, or upon the knee, or laterally upon the trochanter, producing the various forms of fracture in this locality.

The pathology of the several fractures of the femoral neck and vicinity, must, of necessity, be well understood in order to insure a proper interpretation of the symptom complex, establishing a basis for rational treatment.

Fractures involving the head alone are very rare, there having been but three cases recorded.

Fractures through the neck usually involve the weakest portion, the constriction just behind the head, and within the capsule. This would constitute the once famous intracapsular fracture of Sir Astley Cooper, but autopsies have shown that fractures of the neck are so seldom wholly within the capsule that the term intracapsular fracture is very seldom altogether applicable, and is, therefore, more of historical interest than of practical utility.

Fractures through the neck may involve any or all portions of the neck, and may lie wholly within or without the capsule, or as is more common, may lie both within and without the capsule, constituting the so-called "mixed fracture."

Fractures through the constricted portion of the neck are rarely impacted; and partly due to this, and to the fact that in this situation the nutrition of the part is greatly limited, especially if the periosteum be torn, union is seldom obtained. The line of fracture, of course, is not constant, being, for the most part, irregular; and may be transverse or oblique, involving the neck alone, or be accompanied by fractures involving the trochanters and upper extremity of the shaft.

In fractures through the base of the neck the line of fracture is usually along the junction of the neck and shaft, and these are more frequently impacted than any other. The impaction consists, as a rule, in the crushing together of the parts, the fractured surfaces interlocking. The most

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common location is the posterior, the neck being driven, as it were, into the trochanter. Very rarely is the trochanteric portion driven into and received by the neck. These are the more common, though by no means all, of the pathological conditions found in this class of injury, and apply more particularly to the aged individual than to the younger adults. The classical symptoms of fracture, namely: deformity, crepitus, preternatural mobility and loss of function, obtain here, but with less constancy, and in less degree than in fractures in other locations. There is a loss of function more or less complete, eversion or occasionally inversion of the toe, shortening, immediate or increasing, and elevation of the trochanter.

In reference to the limb, there is marked helplessness of this member in the majority of cases, although there are recorded instances in which the patient has walked after receiving the injury. Pain is almost always present, and at times is so severe as to contribute to and maintain a marked degree of shock for a long period of time. The pain is aggravated by manipulation or attempts at voluntary motion. There is fullness in the fold of the groin anteriorly, and pressure down upon this fullness in the direction of the neck occasions paroxysms of pain. The limb is abducted and rotated outward, as a rule, although a case occasionally presents itself in which the toe is inverted.

There is shortening and slight flexion of the limb as the patient lies upon the bed. Sometimes he can, with a moderate degree of suffering, flex the thigh upon the body. Though able to perform this flexion, he is wholly unable to extend the leg upon the thigh. Eversion may be marked, the outer border of the foot resting upon the bed, while again this symptom is so slight that, as Professor Bigelow has suggested, "it is best recognized by comparing the extent to which both toes can be inverted." The cause of eversion is probably almost always mechanical, or, in other words, the result of gravitation; for, "while the patient is upon his back, the tendency of both limbs is to eversion, there being a slight, though distinct effort necessary to maintain the toes in an erect position." Eversion is favored by an angular displacement of the fragments. However, this symptom has been noted in simple contusion, and in fractures in which the periosteum was not torn. As a symptom of this condition then, it is in nowise pathognomonic, and can only be used in connection with, and as a part of the whole symptom complex. The cause of inversion when present is not known, being attributed by Smith to the overriding of the inferior fragment. Swelling is a symptom of some importance, and appears rather soon.

Ecchymosis is present, but usually makes its appearance after the diagnosis should have been made, at the end of twenty-four or forty-eight hours.

Shortening of the limb is present, and is caused by alteration of the angle between the shaft and the neck, or by overriding.

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The degree of shortening may vary from a small fraction of an inch to as much as three inches, and may be immediate, but as is more commonly observed, is present to a small degree, gradually or suddenly attaining its maximum. In intracapsular fractures, shortening may be absent, or slight at first, gradually increasing, and does not exceed one and one-fourth inches at its maximum, unless the periosteum be extensively torn, allowing an unusual degree of displacement. The degree of immediate shortening is limited only by the amount of impaction and extent of the injury.

To determine shortening, the measurements should be taken from the anterior spine of the ilium to the external malleolus. To insure correctness in the measurements, the degree of abduction and eversion in both limbs should be as nearly equal as possible. A good way is to stretch a line from one anterior iliac spine to the other, and drop a cord perpendicularly from the middle of this line, letting it fall between the feet. The feet, or internal malleoli, should now be brought to within equal distances of this line, and the measurements then taken.

The shortening can usually be readily overcome by moderate traction and by sufficient rotation of the limb outward to overcome the inversion.

In this particular fracture, crepitation is a very inconstant sign, but is sometimes manifest upon slight manipulation, rotation and gentle traction. The absence of this sign is no doubt largely due to the degree of impaction present. It should not be repeatedly sought for, since in many and forcible manipulations necessary to produce it, impactions are broken up and connecting bands of periosteum severed, thereby removing the most essential means to reunion of the fragments. "Enlargement of the trochanter when it has been split by impenetration of the neck, is easily made out, when the soft parts are not swollen, by grasping it between the thumb and fingers."

The rotation of the trochanter upon a shorter radius than normal is spoken of as a prominent symptom, and while theoretically correct, is one that is rarely demonstrated in the living subject.

In the diagnosis, the differentiation of the intracapsular from the extracapsular forms may well be disregarded, since in most instances it is simply impossible to differentiate one form from the other; and since the treatment in either case is practically the same, the condition resolves itself into one of surgical curiosity rather than one of practical utility.

Given a history of a fall, with slight or severe violence in a person of advanced years, particularly a female, with loss of power in the limb, shortening, eversion or inversion, crepitus, pain and swelling in the hip, and elevation of the trochanter, there can, of course, be no doubt; but in the face of a slight injury, the limb not entirely powerless, absence of crepitus, shortening and eversion, the temptation to conclude there is no fracture is great. Hodgson, a century ago, advised that in an elderly

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patient, "inability to use the limb after a fall upon the hip should be deemed sufficient evidence to presuppose a fracture of the neck of the femur." Stimson says "this warning has oftentimes, and still is, disregarded to the great damage of the patient, and sometimes also of the surgeon."

This authority further says "that the rule should be firmly established in practice; that every doubtful case, especially in the elderly, should be treated at first as a fracture, and all the more so if the violence has been slight, as a stumble or a fall while walking."

The X-ray affords means of making a correct diagnosis, and should be used when available as an accessory method. This, however, should not be entirely relied upon, for many times it is not available, and the surgeon who places his sole reliance upon this means of diagnosis places himself at a great disadvantage by prostituting his most valuable asset, an understanding born of an experience based upon the knowledge of the anatomy, physiology and pathological changes of the parts.

The complications to be expected are shock, which is generally immediate and more or less great; a sharp inflammatory reaction, accompanied by high fever and delirium, followed by pneumonia; fatty embolism, thrombosis, and the patient, "overwhelmed by the mental and physical shock, dies within a few days."

"The patient's strength may fail rapidly without much inflammatory reaction from the injury, and he dies cachectic, usually from intercurrent pneumonia."

Again, a purely marantic condition may supervene, resulting in death; and cases have been observed to undergo suppuration, resulting in varying degrees of injury, from a constant state of discomfort and inconvenience to one in which the injury is followed by death.

In fractures of the neck of the femur the question of repair is one of importance only in so far as its probability is possible without the sacrifice of the most vital interests of the patient, namely, that of saving his life, even at the expense of the loss of function of the limb, together with the deformity incident to this injury.

In the face of the probable survival of the patient every available means should be taken to obtain union, or, failing in this, to restore so far as is possible the function of the member. That union is possible even at an advanced old age is well attested by many competent observers such as Gurlt, Stanley, Swan, Cushing, and others; and from specimens obtained from these and other observers, there is abundant evidence that in many instances of injuries of this kind, even in extreme old age, a large per cent of them undergo very good repair. These specimens were from patients whose ages ranged from eighteen to eighty-one years. There was absorption of the neck in one of these, and varying degrees of deformity in the remainder, all of which would go to show that in fractures of the neck of

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the femur, especially in the aged, that union without more or less shortening is a result not to be expected, much less to be sought, for various obvious reasons.

Stimson says "there are three possibilities worthy of consideration so far as the process of repair is concerned; first, that bony or close fibrous union is possible; second, that preservation of enough of the periosteum of the neck to make a vigorous vitality of the head possible is probably common; third, that the primary displacement usually does not separate the fractured surfaces, so that if it is not increased by early attempts to use the limb, or, more rarely, by the action of the muscles in the absence of proper retention, the conditions for reunion are favorable."

However, it is well to remember that after advanced old age has been attained our old patient has not the potential reparative energy left him sufficient for the manufacture of many new skeletons. In other words, old people do not make new bones. The first consideration in the treatment of this injury is to save the life of our patient. This is very often hazarded, and even lost, by attempts to secure union and restore usefulness to the limb.

The excitement incident to an accident of this kind can best be controlled by slow and rational treatment.

On being called to see and treat a case of this kind, to relieve *shock* is of the first importance. These old patients suffer with varying degrees of severity from the mental and physical shock, more often severe than otherwise, the relief of which prevents a serious drain upon the vitality of an already exhausted supply, thereby contributing to the benefits to be secured by placing the limb in retention.

For this purpose, the administration of morphia hypodermically, in combination with atropia, is the most useful, relieving pain, stimulating the respiratory and circulatory functions, dispelling fear and giving, instead, a sense of security and comfort.

From a fourth to one-half grain of morphine, with one one-hundred-fiftieth of atropine, is the dose to be so administered, the size to vary with the weight and potentiality of the patient.

A fracture-bed should be made by placing heavy boards beneath the mattress, and upon the frame of the bed. The patient, when placed upon this may receive treatment by any of the numerous means suitable to his condition, without sinking down in his mattress.

The patient should now be put upon the fracture-bed, his thigh flexed at about right angles to the body, the leg flexed upon the thigh to the same extent, slightly abducted and inverted, in which position it should be retained by means of sand-bags so arranged as to maintain the position described, with no effort upon the part of the patient.

Extension should be secured by the application of wide adhesive strips to the inner and outer surfaces of the thigh, covered by a gauze

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bandage, and extending from the trochanter externally, and perineum internally, to and below the inferior extremity of the bone, where a loop is formed, and fastened to a rope running over a pulley, which is suspended from the ceiling, bearing a weight suitable to the musculature of the injured individual. The foot of the bed should now be raised upon blocks or brick about six inches above the floor in order to secure counter-extension. The sand-bags must be readjusted at intervals, as they gradually settle, allowing the limb to fall out of line and proper position. The chief difficulty with this mode of treatment lies in the fact of its continuous confinement to the bed of the patient in the dorsal position. This position in the aged is very conducive to hypostatic pneumonia, and, besides, if continued for a period exceeding a few days or a week, tends to depreciate the vitality and general condition of the patient. To obviate this difficulty some means must be devised to get him out of bed.

The last three fractures of this kind which were treated from this office after having been confined in this manner from eight to twelve days, were placed in a splint fashioned somewhat after the style of the Hennequin hip splint.

A tinner was secured, who, from light galvanized iron, made a hip-splint encircling the back and sides of the pelvis. To this was made a groove-splint for the entire length of the thigh, set at nearly right angles with the pelvic portion, having a light cap to cover. To this, and at almost right angles with the grooved portion for the thigh, another piece was made to receive the leg, extending down the upper two-thirds, for which a cap was also furnished. That part of the splint to receive the leg and thigh was set at a degree of abduction midway between the normal and the extreme, and extension bars and cross-piece was set eight inches from and in the same axis as the portion receiving the thigh. This splint was now padded with cotton, the patient placed in it, and the caps applied, and retained by roller bandages, and extension was made from the cross-bars of the splint. Extension may be made across the pulley overhead, as before, the patient retaining the splint while in bed. In a dressing of this kind he may be removed from bed and placed in a rolling or rocking chair, and, if necessary, extension may be kept up, both while in a sitting and recumbent position.

With a splint of this kind we also treated a fracture of the right thigh, at the junction of the upper and middle third, in a boy aged seven. In all four of these cases the results were all that could be desired.

As a preliminary to this or any other dressing, it is frequently necessary to administer a general anesthetic for diagnostic purposes. During anesthesia great care should be taken to avoid the breaking up of impactions. This applies particularly to old patients. In the younger individual anesthesia should always be induced when possible, and the manipulations may be more extensive, the object of attaining perfect contour and func-

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tion being more imperative here than in the quite old person. In the robust, between adult and old age, the patient may be confined to bed with the sand-bags, or other apparatus, for a longer time without danger to life.

In this class of cases, however, there is no better means of retention than the Ruth-Maxwell method. As a modification of this method I have used the following when out in the country where efficient means could not be had. A fracture-bed is made, and the patient placed upon it, a board a foot wide and six feet long is secured, and a foot-piece twelve inches square, with a hole near the top, is nailed to the end, and at right angles with it. Another piece is nailed to one side for the purpose of keeping the toe inverted. The long board is now wrapped with an old comfort or blanket, and secured by a few turns of a roller bandage. This board is placed in the bed, with the pulley end resting upon the foot of the bed, and the other end beneath the hip of the patient. His leg is now adjusted to the surface of the board. This places the limb on an incline. Extension is secured by strips of plaster from the perineum, down the sides of the thigh and leg, secured in the ordinary way, and attached to a rope running through the hole in the foot-piece, and a weight adjusted. The hole in the foot-piece is high enough to keep the heel from resting upon the board.

The lateral extension can now be put on as in the Ruth-Maxwell dressing. Whitman's plaster-cast dressing in fractures of the femoral neck, in children and youth, is to be recommended. The chief points for consideration in this method lie in the extreme abduction of the limb, bringing the fragments into direct apposition, and the perfect immobilization secured from the plaster dressing.

THE RADIUM CURE OF LUPUS.

Sir Wm. Ramsay has announced by cable that rodent ulcer "can be cured with certainty by exposure for a few minutes at intervals to rays emitted by radium bromide." Dr. Wm. J. Morton, of New York City, has, however, antedated the authorities of the Middlesex Hospital, from whom Sir William's favorable reports come. In the *Medical Record* of November 9, 1907, Morton records several cases of complete eradication of facial lupus by radium, together with gratifying results obtained in treating more deep-seated cancers. Morton prefers radium to the X-rays, in that its dosage can be made more accurate. The radium rays, moreover, have greater velocity and penetrating power. He continues to treat special cases of cancer by X-rays and by trypsin and amylopsin. He was one of the first to declare that radium constitutes "probably the best modern treatment for lupus vulgaris."

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THE POSSIBILITIES OF MEDICAL SCIENCE.

By Robert Gray, M. D., Pichucalco, Chiapas, Mexico.

Resplendent beam of inspiration, lend me one radiant glint to illume this midnight meditation.

Professional brothers, this invocation was provoked by my appreciated friend, the genial editor of the Brief, whose suasive flattery supplicated this essay. Could you and he peep behind the curtain at this pathetic scene, "disappointment" would impulsively be the unanimous verdict.

An octogenarian bending over this page with one fading eye, watching a beautiful young woman in the unconscious crisis of a fearful fever, the exhausted family sleeping in chairs.

Yet here—here is where all our academic attainments are unschooled.

This imperiled body contains aconitine ample to sap three such normal lives, the septicemia being too virulent for authorized dosage to dominate, with aconite positively contraindicated, and death or aconite influence being the certain alternatives presented for choice. But I chose the aconite trump; the only possible checkmate for the angel of death, fortifying the debilitated heart by dropping dissolved glonoin—nitro-glycerine—under the tongue every fifteen minutes, and thus sustaining it throughout the period of terrible strain to which it was subjected by fifteen-minute dosage of aconite, kept up consecutively for hours. The autotoxemia was superior to the force of ordinate medication; saturation being requisite to dominate the systemic virus that would yield to no influence save alone that of more active poison, appropriate in such cases, in nothing available to man but aconite.

It might seem illogical to assert that three times the aconite dosage that is sufficient for one patient is necessary for another, with apparently the same approximate diagnosis, as it is both physically and scientifically impossible to determine the septic degree to be combated in any way other than that of actual medication to effect or tell the limit of drug-intoxication or sufficiency reached. And such aconite medication is fraught with delicate niceties, not legitimately delegated to school boys nor trained nurses, but that should develop under the vigilant scrutiny of the practiced and wakeful eye of a master of the subtle relations between physiology and aconite, which I employ to the limit, with no more trepidation than I administer bicarbonate of soda, thus flinging sunbeams into the gathering shadows of mourning by cutting short the prospective job of the undertaker—an expectant functionary I have thus thwarted a thousand times.

Progressive aconite medication is the safe and effective one I employ, even tincture dosage should be fractionally administered every fifteen minutes. I use amorph. granule, grain 1:134, as adult dose every fifteen min-

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utes, the equivalent of which should be given as frequently, in tincture, till indications call for every half-hour, or two or three hours, or require suspension of such medication—rules impossible to specify, as there are rarely two similar cases in a hundred, and nothing but the anatomical keynote to guide one to understand when physiology calls a halt; certain to be demonstrated before the danger-line is passed—an indispensable qualification to be a successful fever physician, as pneumonia and typhoid fevers may be cut short or aborted with aconite almost every time, when no other substance, not even veratrum viride, has power to destroy or arrest the deadly progress of the destructive demon.

I have studied and mastered some occultisms that possibly no other living American, nor dead, ever had legitimate opportunity to attempt; having had an extensive tropical practice of forty-two years in the sickliest belts of the continent, replete with critical patients doomed to die under any authorized treatment, which justified experimental medication that promised a possible betterment of what I had been schooled to employ.

I had no thought nor dream of anything beyond my own fearful field to secure better medication, and improved methods of employment for myself alone, to aid me in preserving health and prolonging life where suffering humanity was a perpetual martyrdom; not even thinking of ever communicating results to the native profession, much less to the polished clinicians in the United States.

My French education was of priceless auxiliary, enabling me to prove advance ideas of brainy French scientists, some of which barely attracted passing attention at home. And I was always never nearer than twenty-five miles of any other doctor. I had to depend entirely on myself and the light of reason within me to guide me aright.

For more than thirty years I had no sort of relations with the United States; buying all my medicines in Paris, and contributing a stray article now and then to French medical journals. But improved chemistry and elevated medical journalism lured my attention once again to my long-abandoned native land—*that mournful grave of Dixie*—where I sometimes send some renegade disquisitions to shock the elect with my independent treason.

Podophyllin compound and acetanilid compound, once demonstrated in the BRIEF, are wonder-workers in my practice—needless to be repeated here.

Pure carbolic acid, whose magic was bequeathed to the profession by my lamented friend, Dr. Ben H. Brodnax, and its compounds, mostly developed by me, serve me some forty specialistic turns, many of which were once contributed to BRIEF readers, eulogistic of the substance and the masterful mind that brought it the light of day.

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My admiration of such immortal scientific genius closely approaches idolatry—possibly because their legacies have served me so passing well; yet I am persuaded that it is due to some indefinable affinity, as my sleepless eye has peered into midnight solitude more than fifteen thousand consecutive times.

I have practically mastered the fever problem of medical science, save cerebro-spinal meningitis and yellow fever; both, as yet, scientifically immedicable. I have had yellow-fever patients some time in each of thirty-seven of my forty-two years of tropical life, and saved as many of them as would have probably lived in other hands, as all who did not die might have recovered without any medication. I know all there is extant about the disease and its treatment—practically nothing of scientific merit. Most of the sporadic cerebro-spinal meningitis victims die. I have seen four cases this year—two dying when seen—two recovering, as they probably would have done without my energetic treatment, as I know nothing and can learn nothing about the disease, nor its proper medication, beyond the fact that I have never been able to trace it to contagious responsibility.

The slow, remorseless dial of time has left the anxious hours of the night in the storehouse of eternity, and the patient with subnormal temperature and a strong fifty pulse. She is sitting up in bed sucking an orange, amid a family jubilee—a scene that gladdens the weary heart of an exile in a foreign land.

In my practice, suggestion is an element beyond and above any merited appreciation of mere drug-influence, which combines with the mystic spell of suggestive enchantment to make a resistance in combat with the Angel of Death, unsurpassed by any power on earth since the epoch of Christ—appropriate and legitimate, and attainable attributes of any practitioner anywhere not unworthy to be a member of the noble and ennobling profession of medical science.

Not alone in the correct treatment, but also in the proper diagnosis of disease conditions is suggestion superlatively serviceable in that mysterious, unrecognizable suggestion that actuates the physician through the medium of the subjective mind; whether communicated from the subjective mind of the patient or inspired by power divine, I am unable to affirm, and know not, and regard the source of far less importance than the possession.

The reverse process of working in the disordered anatomy through the medium of the subjective mind of the patient is a theme as absorbingly interesting to me as that of life and death, and equally mysterious—a power that burlesques death, and that may develop immortality on earth, possessing such unlimited degree of possibility as the divine endower of mankind may deign to bestow. My faith is boundless; outrivaling the most extravagant speculation one could possibly indulge.

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My first suggestive act is to put cheerfulness in the sick-room; to get the patient and family into a jolly mood, where delirium or unconsciousness does not render the attempt impractical, in which case I address myself to the subjective mind of the patient, and seldom unavailingly, when decay in the vital tissue has not already done its fatal work. Where reason has not been dethroned, and conscious vitality is sufficient, the patient usually tells me in a little while: "Why, you have made me forget that I am sick," sometimes before any medicine has been administered.

I make every act of medication a feature of suggestion, and rarely fail to realize the desired result. I by no means make suggestion alone my dependency, but use the drugs with an energy and a persistency that would appall most text-book practitioners, which, coupled with suggestive influence, make a team that pulls the patient out of the valley and shadow of death, which is much, and all we should desire.

Yet the wondrous beauties of the suggestive idea make a dream-spell that lures and charms in the weird haunts of night and solitude but to elude. I have passed hundreds of midnights amid the ruins of dead and nameless nations in the fruitless quest of communion with the spirits supposed to pervade such realms in the still and solemn hours, and called aloud but to be mocked by reverberating echo. And now I am convinced that the solar-plexus of the brain, the mystic upper chamber of the subjective mind, is the magic enchantment beyond and above all carnal faculties, wherewithal we are endowed to perform miracles passing all human understanding, no tongue nor pen may define nor explain.

The subjective mind is a perfect, sleepless faculty in infant, imbecile or moribund; active and powerful, alike in one or the other—the soul element of our incomprehensible existence, that actuates the objective mind, filling it, at times, with burning eloquence, and then again with the complex mechanism of astounding invention—marvels no carnal faculties alone ever conceived or developed.

And what is yet more important to medical science, that subtle subjective mind is obedient and flexible, and may be utilized to aid appropriate medication in repairing the wasting tissue in the disordered anatomy of the patient in whom the potent soul abides. I have never had an opportunity to employ suggestion in my native verbiage, but ever in the siren tongue of Andalusia, that charming speech whose every intonation is music.

I am positive that science is inspired, and that we of the medical branch are more in favor with the divinity than priestcraft ever was.

I know that health and long life are the natural heritage of man, and that there should be no death, not due to violence, short of natural decay. My own vigor and physical endurance equals that of a robust man of thirty.

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I am a stranger to ache or pain; and I have worked a full hundred years of current practice; always twenty hours awake, when my narrow span of rest is not disturbed. In August of this year, I passed thirteen nights without attempting to sleep; and I never sleep in daylight. And I have rarely passed three days together in forty-two years exempt from exposure to deadly tropical contagion. I have out-watched the stars beside feverish cots thousands of times, and bestrode a horse or mule, swimming mountain torrents or groping round the verge of precipices leading down to yawning chasms three thousand feet below, and will probably be doing the same for twenty years to come.

I have spent my munificent earnings on the poor and wretched, and for the best that money could buy of chemicals and literature; always keeping abreast of, or in advance of the progressive age. Being absolutely estranged from mankind in other than professional relations, I have had time and opportunity to read and study, and experiment, in so many long night watches, with desperate patients, or long rides over broken, roadless country; and when, occasionally, in the quiet tranquility of my house, where I live alone, in a splendid paradise of desolate loveliness, having never married nor kept a mistress; and I never take a dose of medicine—lemons and oranges, and temperate habits keeping nature unobstructed. Do nothing to obstruct the *prima via* nor superinduce hepatic stagnation, and you will never be sick, although you be exposed to contagion every day. Your frightful infantile mortality is due to indigestible over-feeding, and blindly ignorant medication on the part of parents, nearly always; and many clinicians know little enough about dosing children, who most frequently require such nominal treatment as lemon juice and the white of an egg beaten in a little sweetened water for medicine and nourishment. I lose incredibly few of the little people; and I have them repeatedly fearfully poisoned with over-dosage of vermifuge or in indigestive spasms.

Get down close to nature; use sterling, rational medication progressively to effect or limit of prudence, and employ suggestion first, last and all the time, and you will soon have such few mourners that the undertaker will be forced to seek some other livelihood.

Of all success points the most important is correct diagnosis, so as not to put the patient to death by aiding the ailment with treatment of a disease not present—a blunder made by men of great pretentions; and it is not seldom impossible to diagnose properly in cases of violent emergency, ere the disease develops.

I have but one rule to guide me in such cases: Any disease or other disturbance of the anatomy is in diametrical contravention to the law of nature. I say to myself: Here we have obstruction and congestion, and

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I medicate and suggest against such condition, and am never dumped into the mortification of finding, after too late, that I fatally erred. My patient is promptly relieved and cured before the dependent disease has time to get established, and down to business. Parents and doctors, too, lose thousands of children by wasting precious time on worm medication where there are no such tormenters, though there are seeming indications of such trouble. I never administer vermifuge in complicated disorders before the more perilous one is relieved, although I am satisfied that there are worms to justify such medication.

I have contributed, one time and another, so many of my renegade departures from the beaten track of the profession to BRIEF readers that I am at a loss for new subject-matter readily compressible into journal requirements.

But if you want to demonstrate incredible digestion, procure a tablespoonful of pineapple juice, or equivalent in essence, extract or the canned product—goes on top of each meal—digestive capacity a thousand times its quantity; yet the pulp of neither fresh nor canned fruit should be eaten.

Copper arsenate, grain 1:250 down to 1:3000, every ten to thirty minutes to effect, is a precious substance for diarrhea and dysentery, not inflamed; the weaker in solution being proper for infants. Where there is inflammation, I put: Castor oil parts 3, olive oil part 1, into pure lemon-juice equal to olive oil, and table salt to flavor liberally, and beat well. One dose frequently terminating the trouble, or, at best, putting the patient in a shape for simple medication to save the situation.

I cure fearful tropical skin diseases with syrup of sulphur and ointment of lard and sulphur; an old-fashioned, yet cheaply effective remedy anywhere.

THE first surgeon west of the Mississippi is stated to have been Dr. Antoine Francois Saugraine, who settled in St. Louis in 1800. His leisure was given to experiments in chemistry and electricity. The Indians frequently visited his laboratory and, not comprehending the mystery of his experiments, held him in great awe, and wanted to worship him as a god. He made the first lucifer matches in America, and the first thermometer used in the West. Besides being a physician, he was postmaster. His habit was to tie the mail up in a blue silk handkerchief, and to leave it thus on his doorstep. The citizen would, in the Doctor's absence, untie the bundle, look over the letters, select his own, and leave in payment as postage a piece of coon-skin—the legal tender of that period.

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MEDICAL LANGUAGE.

By Dr. H. Zimmerer,
Professor of Philology, Regensburg, Germany.

(Continued from page 272.)

Then there are analogous new formations of later times, such as *γαγγλιονῖτις* (*γαγγλιῖτις*), *ἐλυτρῖτις*, *διφθερῖτις*, *ἐπισκληρῖτις*, *κυστῖτις κωλῖτις*, *κρανῖτις*, *μητρῖτις*, *φλεβῖτις*, *χορδῖτις*, *μαστῖτις*, *κυκλῖτις*, *σαλπιγγῖτις*, *κολεῖτις*, *ἀραχνίτις* (*ἀράχνιον*) *οὐρηθρῖτις*, *στοματῖτις*, *τυφλῖτις*, *γλωσσῖτις*, *γονῖτις*, *κολπῖτις*, *λαρυγγῖτις*, *μυωσῖτις*, *ἐντερῖτις*.

After this suffix, which is the most frequent in occurrence, follows:

2. the suffix -ia and *σία* -ia, *-ία*, *-εία*, *-οία* is the most frequent termination by which substantives are derived from adjectives in order to designate the quality of an abstract substantive. While simple words *αἱμία*, *ῥοία* do not exist as substantives, but mostly form adjectives, they frequently occur as a part of compound substantives, as in *λόγιος*, *τόπιος*.

The following are new formations: *ἀλγία* (*ἄλγος*) *ἀ-λεξία*, *οὐρ-αιμία*.

The Greek physicians possessed only one word which expressed a pathological secretion and was composed with *ῥοία* (rhœa, secretion), and that word is *αἱμόρροια*. (Galen, however, also used *γονόρροια* and *ὑδρόρρια*, too, has come down to us.) All other words ending in rhœa which are of frequent occurrence in medicine, are new formations, If the first part of such a compound word means a fluid, the new formation is admissible, as in blennorrhœa, spermatorrhœa, galactorrhœa, dacryorrhœa, etc., because they correspond with the Greek example of hæmorrhœa; if, however, the first part does not mean a fluid, but an organ, then all such new words are barbarisms, as, for instance, phallorrhœa, balanorrhœa, metrorrhœa, proctorrhœa; otorrhœa, etc.: (see Hyrtl, Onomatologia Anatomlca, p. 394).

Very often the feminine termination -ia is attached to a participle present ending in -ent, such as audentia (audacity) from audens, audent (risky), audientia (hearing), beneficentia, benevolentia, breviloquentia, cohærentia, confidentia, conscientia, consequentia, constantia, continentia, dehiscentia, convenientia, despicientia, extumescentia, flatulentia, etc.

New formation: latentia.

The substantives in *σία* formed from *τία*, and originating either from nominal forms, such as *ἀγνωσία* from *ἀγνω-τος*, *κυνηγε-σία* from *κυνηγε-της*, *ἀκαθαρ-σία*, *ἀκάθαρ-τος*, or from verb forms, such as *γυμνασία* (*γυμνάζομαι*) *δοκιμα-σία* (*δοκιμάζω*), *εἰκασία* (*εἰκάζω*).

Among the numerous words in

3. -is, -sis, which are a simple evolution of the fundamental conception, and signify an action or the beginning of a state, in short, express the abstract conception of the action of a substantive (*-σία*) and are rendered in German either by an infinitive used as a substantive,

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or by the termination *ung*, ἀλλαντίασις, πύρεσις more correctly πύρεξις ἀνάμνησις. New formation: κεντησις, ἀκεφαλόκυστις.

The most numerous ones are those ending in -ωσις (and -ωμα), which generally signify a fulness and are derived from verbs ending ὁω, as for instance ἕλκωμα, ἕλκωσις from ἑλκόω, ἕλκος ulcus ἕλκω lacio μίτωσις from μιτόω = μίτωμα; -σάρκωμα σαρκόω, σάρξ; λεύκωμα, λευκόω λευκός, λεύσσω luceo, λύξ, lux.

There is considerable difference in the pronunciation between the accented Greek sound and the quantitative accent. Feminine words ending in -sis, -xis and -psis, retain these terminations if the first component part is a preposition, as in πρό -πτωσις, περί -πτωσις, διά -γνωσις; if it is not a preposition, the termination is changed into -sia, as in εὐ-πραξία, ἀ πραξία, γαστρο -πτωσία, ἐντερο -πτωσία, σπλαγχνο -πτωσία, δυσ -πεψία.

Most verbs ending in ὁω are derived principally from adjectives of the second declension, and usually signify the production of what the root-word indicates; for instance ἀγκυλόω bending, ἀγκύλος crooked, ἀγκύλωμα, ἀγκύλωσις, ἀναστόμωσις (ἀναστομ-ὁω) open the mouth.

Substantives ending in -(ω) μα indicate what has been done, the result of an action, an affect. Examples: αἱμάτωσις ἀρθρωσις (arthrosis) from ἀρθρόω, ἀνθράκωσις (anthracosis) from ἀνθρακόω, ἀναστόμωσις θρόμβωσις, ἰχθύωσις, καρκίνωσις, μύωσις, νέκρωσις.

Analogous new formations: ἀκάνθρωσις, ἀνόστωσις, νεύρωσις νέφρωσις.

-oma κονδύλωμα (κονδυλόω tumor μυέλωμα, σύμπτω-μα. New formations: ἀδένωμα, ἀγγείωμα, αἱμάτωμα.

All physicians speak of neuroses as "nerve affections" (νευρο-πάθεια), which they certainly are not. Physicians and anatomists have made a legion of new words with νεῦρον which caused truly comical confusions, because the old νεῦρον signified sinew, and the new one nerve. All substantives in ωσις are derived from verbs in ωω. Now, νευρόω to string a bow, hence, νεύρωσις stringing a bow. Medical dictionaries are replete with such linguistic monstrosities (see Hyrtl, Onomatologia anatomica, p. 353.)

4. Words with the suffixes -(a)tio. -a-t-io. Many words ending in -io, -s-io, -t-io, -a-t-io, which signify the taking place of an action, sometimes the result or effect of the action, have been introduced through Romanic influences by the circuitous route over France; for instance, luxation, nation, passion, retorsion, version, etc.; ablactatio, subluxatio, subfocatio, subpuratio, sus-pensio. The words in -atio and -sio are of course derived from the verb roots, ablactare, luxare, torquere, luxatio, tor(c)sio, etc.

Analogous new formations: angustatio, cauterisatio, eburneatio, splenisatio. (extra)vasatio, vascularisatio.

5. Words ending in -tas, Greek -της, genitive -τητος. These, too, signify an abstract idea as a rule, and are formed from roots of substantives and adjectives ending in -i-, and of adjectives ending in -l or -s. For instance, civi-tas, ævi-tas, im-munitas, venus-tas, hones-tas, facul-tas.

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New formations: venosi-tas, gen. venositatis, in English venosity (vena, venosus).

6. Ending in -mus, Greek μος. Substantives derived from verb roots by attaching the syllable -μος, which usually expresses the abstract idea of an action, less frequently the intransitive reference of the verb. This is the regular derivation in the case of verbs ending in ζω, τεινεσ-μός (Hippokrates), tenesmus, albinismus (albinus, whitish), ῥέω, ῥεῦμα, ρευματίζω, ῥευματισ-μός.

New formations: albinismus, ergotismus, mutacismus (from mutus), ὑπνωτισμός (from ὑπνωτίξω, ὑπνόω). There is no ἀγραμματισμός in Greek, but ἀγραμματία and ἀγραφία.

7. ιον -ium (-ius, -ia, -ium); for instance, remigium (remex, remigis, rudder), princip-ium, fastid-ium, stilli-cid-ium (stilla; -ca-do).

8. -vus, -va, -iva, -una, -unum, -unus; acer-vus (acus, aceris, chaff), cater-va, Miner-va, ging-iva, sal-iva, noct-ua, night-owl, patr-uus, uncle, tonitr-uum, thunder.

9. The substantives with the suffix -ago have been formed from the verb agere, changing the value of short -a to long -a, thereby denoting the causing of an effect, producing something, rendering something similar: for instance im-ago (im-itary) image, vorago pharynx, lapp-ago (lappa, chain), carr-ago bulwark of wagons, lumb-ago (lumbus, loin) lumbar paralysis, cori-ago, skin disease (corium), citr-ago (citrus, lemon), mucil-ago (mucus, mungo), plumb-ago (plumbum, lead), aur-ago icterus, vir-ago, mannish woman, farr-ago, mixed feed (far), sart-ago, crucible.

In the suffixes -igo and -ugo the original a of the suffix -ago has been changed to i and u.

Instead of -ago, we find -l-ago in a few words, as in sals-i-l-ago saltiness (salsus), ossi -l-ago bony hardness.

Further or-igo, prur-igo, pet-igo mange (petere), vert-igo, claud-igo limp (claudus), surd-igo (surdus), lent-igo lentil-shaped patches (lens, lent-is); lan-ugo (down, lana), alb-ugo white patch (albus), aur-ugo icterus (aurum), sals-ugo saltness (sal, salsus), ferr-ugo iron rust (ferrum), vesper-ugo evening star (vesper), rubigo, rust (ruber), aer-ugo bronze rust (aes).

New formations: serpigo, mellago.

10. The forms ending in -ber, -bra, -brum, -bris, -bre are to be traced back to fer-o carry (German . . . bar, as in fruchtbar); candelabrum chandelier, lugu-bris, fa-ber, salu-ber.. cre-ber (cresco); cele-ber, frugi-fer, φόρος for instance χοη-φόρος, πυρο-φόρος.

11. The suffixes -cer, -eris, -ere, -era, -erus, -erum are derived from the Sanskrit-root kar, make; volu-cer, ludi-crus, lava-crum preparing a bath, sepul-crum.

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12. -ter, -tro, -trum, Sanskrit-root tar, to bring about; fere-trum bier, spec-trum causing to look, rast-trum (rad-o), rqs-trum (rad-o), claus-trum (claud-o), vi-trum (video), mulc-tra (mulceo). The instrument or means to perform an action is designated by *-τρο, τρον, ἀρο-τρον* plough, aratrum, *λύ-τρον* ransom, *δίδακ-τρον* apprentice-fee, *τρα, ξύστρα* horse-comb; (*ξύω*); also a place; *ὀρχήστρα* dancing place *παλαί-σ-τρα* wrestling school (from *ὀρχὲομαι* and *παλαίω*.)

13. The formations in -tura are quite common in Latin, some even without the simple forms in -tor, so that their derivation can only be assumed; pressura (pressor, premo), fractura (fractor, frango) punctura (punctor, pungo), sectura (sector, seco), tonsura (tonsor, tondeo), unctura (unctor, ungo), litura (lino), junctura (jungo), genitura (genitor, gig/e/no), mensura (mensor, metior).

14. -orium, -torium, Greek *-τήριον*, -sorium, (French -oi)r, for the design of localities, instruments and similar things; promunt-orium, tent-otium, accub-i-torium, suda-torium, an-ju-torium, ses-sorium, dever-sorium, terri-torium, calca-torium, emunc-torium, tec-torium, *ἀκροατ-τήριον* audi-torium; *δικας-τήριον* judicial court (*δικάζω*).

(To be continued).

POST-PARTUM HEMORRHAGE.

By Hunter H. Powell, A. M., M. D., Cleveland, Ohio.

Professor of Obstetrics and Pediatrics in the Medical Department of Western Reserve University, Cleveland, O.

[Written for the Medical Brief.]

Post-partum hemorrhage is the result of a disturbance of nature's processes. In the main, it may be said that the great majority of post-partum hemorrhages are due to errors in the handling of the cases. As a teacher of obstetrics I have always warned my young men to be careful how they claimed to have been so successful in the management of post-partum hemorrhage, since had they managed their obstetric cases properly they would have had few cases of hemorrhage to report.

Among the chief causes of this dangerous accident are (1) the too hasty expulsion of the afterbirth by the Crede method, and (2) the too active and radical steps taken to prevent active hemorrhage.

A slight hemorrhage may be followed by no ill-effects, and the condition of the patient determines more than anything else just what measures must be taken. A good many inexperienced men are deceived in this respect, and do radical procedures, which are accompanied by more injury to the patient than the blood that has been lost.

The amount of hemorrhage varies so within bounds of the normal that the condition of the individual should indicate what treatment, if any,

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should be resorted to, rather than hasty interference with the interior of the uterus.

Post-partum hemorrhage, amounting to a serious condition, is extremely rare in the practice of men who are properly trained in obstetric practice.

In my own practice, until I see that the patient shows the effect of loss of blood, as indicated by pulse and respiration, I very rarely resort to those radical measures which are required for the internal handling of the uterus, or internal applications of any kind. If one has charge of the case and knows how much of the afterbirth has been removed, and whether anything is retained to cause hemorrhage, or whether the hemorrhage is due simply to an atonic condition from systemic cause or exhaustion, he is in position to know just what to do. For a physician always has in mind the possibilities of post-partum hemorrhage where labor has been long continued, or where chloroform or forceps are used, and is specially prepared to meet these emergencies.

Of course, there are many women who are temporarily impaired in health by loss of blood, even though death does not occur, if the puerperal period is prolonged.

Treatment will depend entirely upon the case. If due to retained afterbirth, this must be immediately removed. If the hemorrhage is due to an atonic condition, and does not respond promptly, boiled water, at a temperature of 115° F., should be injected into the uterus. Sometimes alcohol (50%) has a beneficial effect, but hot water is, I think, preferable. Of course, ergot is injected hypodermically. Once in a great while I resort to packing with sterile gauze, but this rarely, and is only done when, for some reason, the uterus will not contract, and we will have to create a solid mass.

As hemorrhage usually occurs in from ten minutes to an hour after birth, the physician is, or should be, present. But the nurse should always be trained by the physician to cause the uterus to contract by manipulation from the outside with the hand.

The condition of the patient should also govern the use and kind of stimulants.

1861 Prospect avenue.

DIFFICULTY IN URINATING DUE TO TABES.

In the case of many old persons who complain of slow and difficult urination, and other urinary symptoms pointing to enlargement of the prostate gland, it is necessary to bear in mind the possibility of the trouble being due to tabes. Even though examination shows the prostate to be enlarged, it does not necessarily follow that it is the cause of the urinary disorder, and it is important to determine whether tabes may not be present.—*American Medicine,* March, 1908.

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GENERAL VIEWS IN THE DEFICIENCY OF THE SPHINCTER APPARATUS.

By Byron Robinson, Chicago.

[Written for the Medical Brief.]

The vagina should engage more of our attention, because it is on this apparatus that the operation of colpoperineorrhaphy is applied, The primary factor which produces deficiency in the supports of the sphincter apparatus is parturition. Other factors play but a secondary rôle.

The pelvic fascia is not infrequently lacerated near the ischio-pubic rami; where the fascial sheath is ruptured the contained muscular fibers also suffer laceration. The results are cicatrices and loss of substance, which may be felt by palpation. The ventral vaginal wall generally escapes laceration, but the dorsal vaginal wall is often damaged, showing varied size and form of lesions. Relaxation is prominent and closure incomplete. Instead of the curved distal canal, with the perfect sphincter apparatus,there is a patulous, relaxed patent mouth, resembling a tobacco pouch which has lost its puckering string. Sometimes the vaginal mouth is closed by a ventral and dorsal vaginal fold, for a considerable distance proximalward in the vagina. The causes of the displacement of the sexual organs are so numerous—as elongation of the utero-rectal ligament, elongation of the cervix, laceration of the levator ani fasciæ, proximal and distal; muscles and triangular ligament, intra-abdominal pressure, splanchnoptosia—that all possible factors must be considered in repair. Repair must consist in correcting vicious forces, as the conical-pointed cervix should be amputated and turned dorsalward, the dorsal vaginal curve should be restored with a perineal body, return the rectal end dorsalward, and the lacerated levator ani fascia should be reunited.

An analysis should be made of the factors producing the displacements and lacerations in the genital organs. Deficiencies of the sphincter apparatus; however, both may be often combined. Yet, after all, our chief direction will be directed to deficiencies of the sphincter apparatus, for on it depends prolapse and lacerations, chiefly arising in it. Deficient primary supports give rise to vaginal inversion, as rectocele, vesicocele, bladder and rectal disturbances, and the vaginal mouth loses its puckering-string condition. In colpoperineorrhaphy, the whole of the tissue of the pelvic floor should be utilized for support by forcing it into the median line. This will restore the tonicity of the pelvic floor, and form a firm cicatrix, which will prevent sacro-pubic hernia, and also reproduce the normal curves of the canals. To accomplish this, extensive denudations, or flaps, are requisite.

Successful colpoperineorrhaphy must make the pelvic floor as tense as possible, and the newly-formed cicatrix will aid materially in its success. The thickened tissues (columns) in the ventral and dorsal abdominal walls

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are remnants of Miller's ducts, which should and are preserved in both Dr. Emmet's and Mr. Tait's flap operations. They furnish evident support from their fibrous masses. It may be observed that nearly all successful methods of perineorrhaphy make the denudations in the vaginal sulci on each side, and avoid sacrificing the thickened tissue on the dorsal and ventral walls. Reference to the labors of Bischoff, Martin, Hegar, Kaltenback, Schatz, Emmet, and others, will show this to be correct. After performing colporrhaphy dorsal, Martin makes what may be called an extension of the perineum ventralward. This is an excellent method of restoring the ventral curve of the distal end of the vagina. Any surgical procedure, to be successful, must conform to the anatomic structures. The

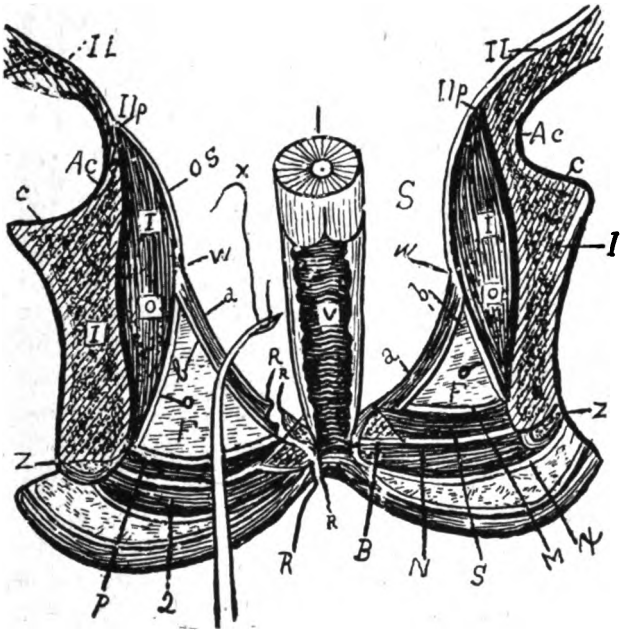

FIG. 1—(Author) An illustration to demonstrate that in deep lacerations of the pelvic floor the levator ani fascia proximal and distal is torn with its intervening muscle, the levator ani. The rent or tear is shown by R—R and R—R on the right side. The needle, armed with the thread (X) will pass through the muscle and its two layers of fascia in order to restore the integrity of the pelvic floor. IL, iliac fascia; 1, the beginning of the obturator fascia superior at the ischio-pectineal line; OS, the obturator fascia proximal; WX, the white line; IO, the obturator internus muscle; F, the fat in the ischiorectal fascia; A, the levator ani fascia proximal; B, the obturator fascia distal; V, the vagina; S, the intrapelvic space; Y, the cervix; P, the deep transverse perineal muscle, and 2, the superficial; B, sphincter ani externus; M, the deep layer of the triangular ligament; S, superficial; N, the deep lever layer of superficial perineal fascia.

denudation of the lateral vaginal sulci, or the flap operations, conform to anatomic conditions, and so far have proved successful. The reason denudation in perineorrhaphy is so successful is because healing in the vagina occurs with considerable certainty.

METHODS OF PERFORMING PERINEORRHAPHY.

The methods of perineorrhaphy may be classified into three divisions, viz., Those which start at the pudendum (denudation); those which at-

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tack the distal vaginal portions (denudation); those which depend on the flap procedure (which embraces colpoperineorrhaphy).

Numerous methods of perineorrhaphy have been tried since the days of Ambrose Pare, Dieffenbach and Baker Brown, when they simply united the superficial tissue which was situated on each side of the visible laceration. This was a superficial pudendal procedure, and was of small value, except to prepare the way for more useful methods.

HISTORY.

If the ancients performed successful perineorrhaphy, I am unable to obtain the records. Colpoperineorrhaphy, as a modern operation, can scarcely boast of being more than a century old. Surgeons sought to prevent prolapse (sacro-pubic hernia) by excision of the vaginal wall, so that the resulting inflammation would produce a contracting cicatrix. Others applied caustics for the same reasons. According to Schroeder, Girardin-Laugier employed the blue stone. Phillips used "smoking saltpetre;" so did Laugier, Velpeau, Kennedy, Dieffenbach, Colles, and Simon. Chippendale sought to stir up inflammation and cicatricial contraction in the vagina by the very questionable method of infecting it with gonorrheal virus. Operators have attacked the pudendum or vagina. The pudendum was first attacked by such surgeons as Baker-Brown and Pare. Fricke was the pioneer who performed episiorrhaphy, which consisted of denudation of both labia and union by sutures. The failures of Fricke's episiorrhaphy induced later surgeons to operate more proximalward in the vagina, which finally resulted in the Emmet and Tait methods. Mende suggested denudation in the region of the hymen. Malgaigne thought it should be more proximalward in the introitus. Jobert cauterized the vagina when it protruded, and after the exfoliation of the eschar, united the raw surfaces with sutures. Desgranges employed chloride of zinc to produce cicatricial contraction. Marshall Hall was the first to employ elytrorrhaphy. He excised oval or long segments of the vaginal mucosa, and united the denuded surfaces with sutures. Dieffenbach formed flaps. Velpeau was one of the first surgeons to do successful perineorrhaphy. Langenbeck and Karl Braun were also pioneers in the operation. Early operators failed on account of lack of anatomic knowledge and prevailing sepsis. It is not many decades since surgeons learned the necessary anatomy to employ colpoperineorrhaphy. It was learned that the perineum must not only be elongated, but a solid, thick, unyielding pelvic floor must be constructed, that the sexual organs can not escape. Perhaps Simon, the predecessor of Czerney at Heidelberg, was the real founder of colpoperineorrhaphy, when, in 1867, he had not only performed but had added to it that of dorsal colporrhaphy. Simon freshened the vaginal wall with a scalpel, and a fenestrated speculum was placed in the

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vagina while he freshened the proximal part of the vaginal wall by having an assistant introduce a finger in the rectum and force the vaginal mucosa to protrude at the pudendum. Veit, Hegar and Spiegelberg aided to develop the operation. As time passed, instruments for support were gradually displaced by more perfect operations, owing to more perfect anatomic and pathologic knowledge. Most of the advances are due, chiefly, to the investigations of Freund, Huguier, Martin, Schroeder, Wilms (1879) and Staude (1880), Breisky, Huepfel, and others mentioned in this monograph. The practical execution of colpoperineorrhaphy by the celebrated Heidelberg surgeon, Simon, is the real foundation of subsequent labors. The success attending Simon's addition of colporrhaphy demonstrated that some form of vaginal operation is required in prolapse or deficiency of the peritoneal or sphincter apparatus of the pelvic floor.

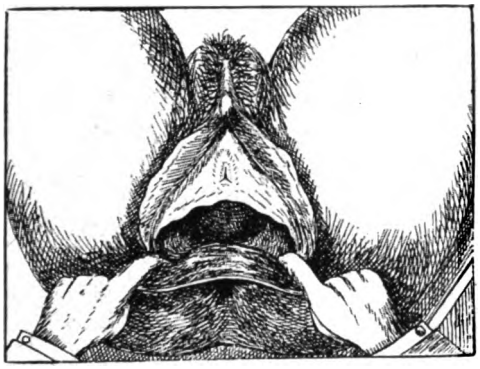

FIG. 2.—(Robinson-Scholer) A degree of relaxed vaginal exit, to be remedied by colpoperineorrhaphy.

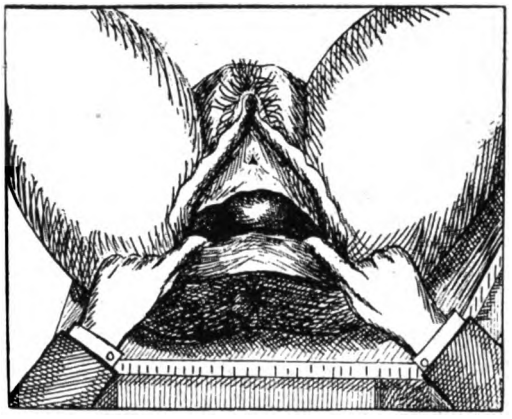

FIG. 3—(Robinson-Scholer) A marked degree of relaxed vaginal exit, to be remedied by colpoperineorrhaphy.

Celsus, it is reported, recognized perineal lacerations, and suggested rest in bed, and tying the legs together, but gave no surgical views of repair. Ambrose Pare, a fertile genius, demonstrated the use of sutures before 1880. He had a pupil named Guillemeau, who restored the parts, applied the sutures, and secured the curves. Sancerotte and Noel secured success about one hundred years ago. In 1829, Dieffenbach, surgeon to the Charity Hospital of Berlin, devised useful methods of repair. The deductions which made Deiffenbach celebrated in perineorrhaphy were his methods of lateral incisions (to relieve tension), and confining the bowels and checking peristalsis of the tractus intestinalis by the aid of opium. Chelius opposed this view, insisting that the bowels should be loose. In 1852, von Langenbeck gave to the world his views through a memoir written by Verhæghe, of Ostend. This definitely advocates the use of flap, and splitting the recto-vaginal septum. Marcy, a fertile and persistent investigator, gives credit to Dr. Jenks for originating the flap. Zweiffel gives Mr.

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Lawson Tait credit for the flap-splitting method, to which he is no doubt entitled. Hart and Barbour credit A. R. Simpson with it. Baker-Brown published, in 1854, his first edition of the "Diseases of Women," in which he advocated Dieffenbach's lateral incisions, the use of deep-quilled sutures, confining the bowels with opium, and bilateral division of the sphincter. The perineal sutures were removed the third day, the remainder later, as late as twelve days. All sutures were silk. It appears that Dieffenback and Baker-Brown realized that the denudation should be carried up into the dorsal vaginal wall, the fact which Simon actually demonstrated. It is reported that Mettauer, of Virginia, in 1830, used lead sutures; other metallic sutures were also employed. In New York, in the Woman's Hospital, Drs. Sims, Emmet and Thomas further developed colpoperineorrhaphy.

At present the operation should be termed colpoperineorrhaphy. New aids have also been developed in regard to the operation, as A. Martin taught for years that one should begin the operation for colpoperineorrhaphy by initiating an involution of the uterus by amputating the cervix. I have amputated the pointed conical cervix to avoid the dangerous dilating wedge to the sphincter apparatus of the pelvic floor, to prepare for successful colpoperineorrhaphy. A new era appeared in this operation when the flap-splitting operation began to be formed. So far as records are accessible, the late Berlin surgeon, von Langenbeck, in 1852, first described the flap operation in perineorrhaphy. He describes the splitting the recto-vaginal septum, making a vaginal flap ventralward, and a rectal flap dorsalward. Langenbeck's description of perineorrhaphy, as translated by Dr. Marcy, is the most important contribution to the subject previous to the time of Gustav Simon, of Heidelberg. In fact, it is almost equivalent to Simon's, and, in one sense, superior—in the use of the flap. Perineorrhaphy was also cultivated by Zary, Mursina, Mensel, Osiander, and Horner. Perineorrhaphy was performed first with silk sutures, the hot iron and chemicals. About three-quarters of a century ago metallic (wire) sutures appeared. In 1879, Werth published views on the use of catgut (animal ligatures) for buried sutures. Schroeder chiefly introduced the buried spiral catgut sutures in perineorrhaphy. Silkworm gut is one of the best materials for sutures in general use at present. About 1872, Mr. Lawson Tait began the use of a certain flap method, consisting of resplitting the cicatrix, resulting from parturition by use of scissors, reuniting the produced wound surfaces by means of sutures *which do not penetrate the skin or mucous membrane*. The utility of this consists in its application to either, or both, perineorrhaphy or colpoperineorrhaphy. The flap operation was dimly begun by Dieffenbach, in 1829, by his lateral incisions to relieve tension. The flap operation was definitely introduced in perineorrhaphy by von Langenbeck, about 1850 ("Memoire," 1852, by Verhæge).

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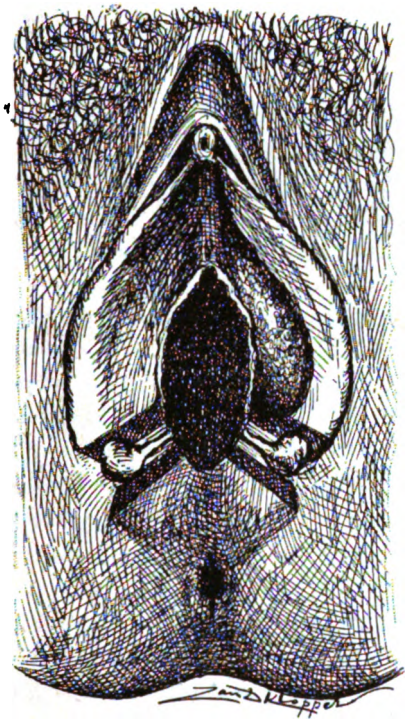
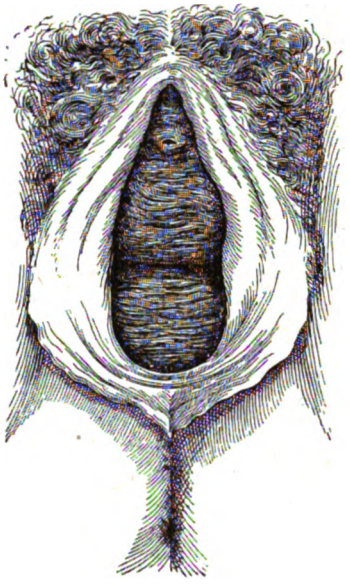
In 1861, Colles, of Dublin, in a case of vesico-vaginal fistula, resplit, instead of vivifying the edges, and united the resultant flap. In 1872, John Duncan resplit the edges of an artificial anus, and reunited them with interrupted catgut sutures. He forced the flap of mucosa intraintestinalward, and drew the flap, composed of muscularis and serosa, extraintestinalward, thus increasing vastly the denuded surface for coaptation. Hart and Barbour report that Dr. A. R. Simpson applied his flap method to perineorrhaphy. Not far from 1872, Mr. Lawson Tait applied the flap



PUDENDA-VAGINAL GLANDS.

FIG. 4.—This illustration represents the bilateral pudendal glands, which are so frequently infected, and may infect the wound in colporrhaphy.



RELAXED VAGINAL EXIT.

FIG. 5.—This illustration represents a common form of genital relaxation.

operation of Langenbeck, Colles and Duncan to the subject of perineorrhaphy. He added to all previous labors the use of sharp-pointed elbow scissors, and the introduction of *sutures not penetrating the skin or mucosa* of vagina or rectum. Silkworm gut sutures are employed, and may remain *in situ* for ten days to six weeks. According to Sanger, Stein (a Dane), and Voss (a Norwegian), used similar methods. Later, Hadra, 1887, contributed valuable views on the restoration of the pelvic floor, as well as Marcy, Jenks, Byford, and Reamy.

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The various so-called operations for (colpo) perineorrhaphy are numerous. The first operation devised involved the pudendum, the second both pudendum and vagina.

1. Ambrose Pare (1580) used simply sutures. His pupil, Guillemeau, practiced and improved the method (1649). LaMotte, Smellie, Noel, Murenna and Sancerotte practiced it.

2. (1830) Dieffenbach, union by sutures, and tension relieved by lateral incisions. Roux (1834) introduced it into France, as well as Mark See (1855), and Polaillon (1855).

3. Baker-Brown (1855), union by sutures of the denuded surfaces. Wilms and Stauda cultivated it in Germany.

4. The next important contribution and method devised in perineorrhaphy was von Langenbeck's flap method (1850). It was described and performed with a master hand. Von Langenbeck also suggests that the lateral incisions of Diffenbach may be added, as it obviates dragging from movements. He advocated operation immediately after the injury, if possible. Von Langenbeck makes several distinct steps in the operation: Vivification of the free border of the recto-vaginal septum; the division, clearing, undoubling of the septum, and formation of the flap destined to form a new perineum, the ventral side of the triangular space formed by two canals, vagina and rectum, with the perineum as the base; the vivification of the two lips of the laceration; insertion of the sutures. In this operation of perineorrhaphy von Langenbeck started the flap method. The flap operation protects the wound from secretions (vaginal or rectal).

5. In 1867, Professor Gustav Simon, of Heidelberg, began the real modern steps in successful perineorrhaphy, which was a combination of perineorrhaphy and dorsal colporrhaphy. Simon simply improved on Baker-Brown's method by not only freshening the perineum, but also carrying the denudation well proximalward. Simon denuded the vagina by the aid of a well-fenestrated speculum. The proximal angle of the vaginal wall was denuded by introducing the finger into the rectum. Spiegelberg and Veit aid in developing the subject. Englehart wrote in 1871; Banga, in 1875, wrote a thesis on "Kolpo-perineorplastik," according to Bischoff. In 1879, Hegar and Kaltenbach made excellent contributions. In 1877, Le Fort, and Meugenaum, in 1881, added their labors. In 1877, Dr. Edward W. K. Jenks, of Detroit, began the publication of a series of articles on perineorrhaphy, which was really a clap method of operating—a distant relative of von Langenbeck's procedure. Dr. Jenks first resected away the flap, but subsequently preserved it. The method is almost precisely similar to the flap method attributed to Dr. A. R. Simpson by Hart and Barbour. In 1879, Werth began to use buried catgut to suture the wound. Dr. Brose, in 1883, used buried animal ligatures. H.

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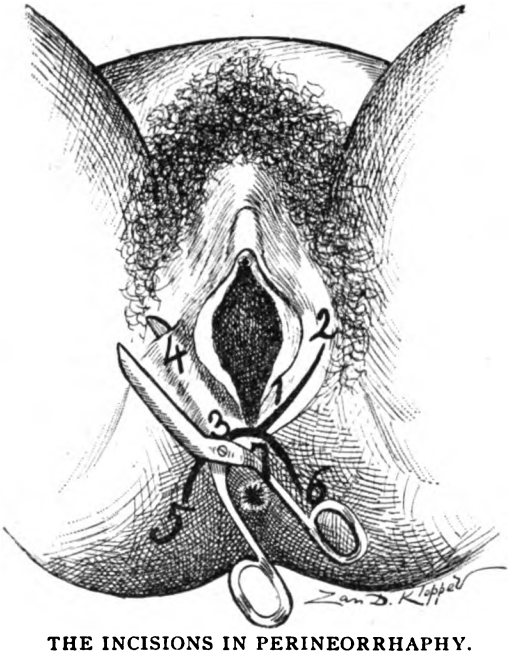
O. Marcy published a series of articles (1883) on perineorrhaphy, advocating the flap method and buried animal ligatures, which he first used in hernia in 1881. August Martin, of Berlin, contributed excellent labors, about 1882. About 1880, Professor Schroeder, of Berlin, obtained excellent results by the use of the "etage" stitch, a continuous running suture of catgut, buried in the tissues of the denuded surfaces. As a pupil of Schroeder and Martin (1885), I observed excellent results from this method. Bischoff, in part, revives the flap operation of Langenbeck. However, his operation was quite influential in its day. Drs. Byford, father and son, made valuable contributions to the subject. History notes that Simpson transferred Duncan's flap-splitting to the perineum. Simpson performed



THE INCISIONS IN PERINEORRHAPHY.

FIG. 6.—Represents the plan of incision by means of elbow scissors.

a kind of four-flap perineorrhaphy for many years. Perhaps Mr. Tait imbibed some of his views.

In 1887, Dr. Hadda, of Texas, contributed some valuable articles on the subject of perineorrhaphy. He suggested the vivification of the dorsal vaginal wall for colporrhaphy, as is done in ventral colporrhaphy. Since 1880, the laborers in the field are legion. Gradually the operation of perineorrhaphy was modified from Pare, Baker-Brown, Dieffenbach, Langenbeck, and Simon, to Tait and Emmet. The modification consisted in denuding not only the perineal lacerations, but also denuding more proximalward into the dorsal vaginal wall. Hildebrandt, especially, carried the denudation well proximalward into the dorsal vaginal wall.

(To be continued.)

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CURRENT MEDICAL LITERATURE.

A New Instrument for the Deposition of Ointments Into the Urethra or Bladder.

Hugh H. Young, M. D., Baltimore (*Maryland Medical Journal*, May, 1908), says that for several years he has been experimenting with the use of ointments in the urethra, and has devised several instruments to facilitate their introduction. One of these instruments was illustrated in an article published last year in Vol. 13 of the Johns Hopkins Hospital Reports ("The Use of Ointments in the Urethra in the Treatment of Chronic Urethritis"). The instrument which was there described proved very satisfactory for the anterior urethra, but it was often difficult to introduce it into the posterior urethra or bladder, and for this purpose he devised an instrument shown in the accompanying illustration. As shown here it is a simple tube with a beak modeled after that of a coude catheter, which makes it extremely easy to introduce into the posterior urethra or even the bladder. On one side, near its lower end, a long opening is placed, and into this a large amount of ointment can be introduced. The solid plunger or obturator is provided, by which the ointment can be pushed out in the urethra, after the introduction into the urethra to the desired place. This instrument is so simple in its construction and satisfactory in its working

that no further description is necessary. It may also be used as a catheter and for irrigation of the bladder, or for removal of urethral polyps, and is a very satisfactory instrument for the evacuation of blood clots from the bladder, as the obturator may be used to dislodge a clot which is too large to enter the orifice, or to draw it through by suction, acting in this way as a syringe. In several cases in which the bladder became plugged with blood after prostatectomy, this little instrument was of great assistance in emptying the bladder.

As to the use of ointments, there is little to add to that given in the article above referred to. Two formulas, which have proven most satisfactory, are a 2% carbolic acid in lanolin, and a 2% salicylic acid in lanolin. The former is useful in many cases of chronic urethritis, particularly those associated with irritability of the posterior urethra. The disposition of ointment after prostatic massage leads to its rapid absorption into the prostate, from which it is passed in small quantities for two or three days.

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The use of the salicylic ointment is indicated when there is marked change of the urethral mucosa to the squamous type, as shown by the exfoliation of large shreds composed of squamous epithelial cells, and thickening of the urethra, as seen through the urethroscope.

Treatment of Tuberculosis by the Administration of Mercury.

Surgeon Barton Lisle Wright (*United States Naval Medical Bulletin*, April, 1908) gives a preliminary report on the use of mercury as a curative agent in the treatment of tuberculosis. He was inspired to try this method of treating tuberculosis because of the fact that he noticed, in 1905, that several patients under his care, who were tuberculo-syphilitics, showed marked improvement in their pulmonary lesions in a much more decided degree than he had ever observed in the case of unmixed tubercular infections under similar or more advantageous climatic conditions. Therefore, he considered that mercury did some good for the tuberculous condition, as well as for the syphilitic condition. He was further encouraged in this belief by seeing the work of Wolters, who, in the September, 1907, issue of the *Derm. Zeitschrift*, reported a case of laryngeal tuberculosis (with no syphilitic history) absolutely cured with mercury and potassium iodide. Accordingly, thirty-five cases were treated with mercury, mostly by the hypodermatic method, using the succinimide of mercury. Out of the thirty-five cases under treatment, thirty showed improvement, as evidenced by reduced pulse rate and temperature curve, increased appetite, lessened cough, and a gain in weight. The remaining five are holding their own. Two cases are fully reported in this paper, with full histories and clinical findings, with markedly successful results. The writer, in conclusion, points to the following facts:

1. Almost immediate improvement in the patient's general condition is shown following the administration of mercury; the slowing in the pulse, the reduction of temperature, and the gain in weight.

2. It has been conclusively demonstrated that this treatment will cure extremely advanced tubercular ulceration of the larynx and pharynx in a remarkably short period of time.

3. It produced marked improvement in advanced pulmonary lesions, and it has a decidedly beneficial action of tubercular glands.

Careful questioning of the patients and exhaustive examination has failed to show any syphilitic condition of these patients reported. The cases look, therefore, to be pure tubercular infection. Attention is particularly called to the necessity of using large and increasing doses of mercury in the treatment of such cases. It has been found that tubercular patients are singularly tolerant of mercury. They not only require, but, fortunately, tolerate larger doses than syphilitics. In this connection, it may be stated, also, that patients with slight infection, small pulmonary

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lesions, and extremely moderate constitutional symptoms, do not stand large doses as well as the advanced cases. Several of these showed sore gums following the injection of 0.026 grams (2-5 grain) of the succinimide, and the dose had to be reduced.

Ileus as a Complication of Gonorrheal Epididymitis.

D. Balas (*Deutsche Med. Wochenschrift,* No. 15, April 9, 1908) gives the history of a case of gonorrheal urethritis, with right-sided epididymitis, existing for four weeks. Four days after his entrance into the hospital, he had severe pains in the bowels, which necessitated him going to bed. He then showed constipation, vomiting, flatulency; he was well-nourished, but very weak, collapsed, frequent (120), small, weak pulse, and coldness of the extremities, temperature of 38.8° C., and odor of feces from the mouth. Organs of the thorax were normal. The abdomen was distended, and peristaltic movements were noted at the umbilicus. There was a tympanitic note on percussion. The abdomen was not tender. There was no dullness of resistance. There was persistent hiccoughing and fecal vomiting. The right epididymis was swollen, the vas deferens thickened; both were tender. The abdominal cramps seems to follow up from the funiculus on the right side.

A diagnosis of ileus was made. Operation under ether narcosis showed pus in the abdomen, and a general picture of diffuse peritonitis. A mass of intestines were found knuckled together in the neighborhood of the right linea innominata, with adhesions to the pelvic peritoneum, surrounded by a mass of greenish, thick pus. A small abscess was seen near the right ductus deferens, which was thickened, its lumen showing greenish, yellow pus, and its mucosa inflamed. Another abscess was found further down, four c.m. below the right linea innominata. There was also a small abscess in the head of the epididymis, and another larger one in the right prostate lobe. There was also present cystitis and a purulent inflammation of the right vesicula seminalis. The pus showed gonococcus and another Gram-positive bacillus, which probably came from the intestines.

Autopsy of this case confirmed these facts, and showed this to be a case of gonorrheal epididymitis, deferentitis and perforation of the vas deferens, with subperitoneal abscess, which was followed by a circumscribed peritonitis. The ileus was followed by acute diffuse peritonitis.

Gonococcic Arthritis Treated with Anti-Gonococcic Serum.

A. Perez-Miro, Chief of the Laboratory of Therapeutics, Havana Faculty of Medicine, Havana, Cuba (*Therapeutic Gazette,* April 15, 1908), reports six cases of arthritis of gonorrheal nature treated with the anti-

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gonococcic serum. He gives accurate histories of the cases which were of the polyarthritis type. The dose of the serum ranged from one to two cubic centimeters, injected at varying periods of time, sometimes as frequently repeated as one in twenty-four hours, sometimes every forty-eight hours. On account of the small number of cases, the writer does not attempt to draw accurate conclusions as to the efficacy of this plan of treatment. However, he makes the following observations on the above experiments:

1. On the day following the first injection of serum, the urethral discharge has been observed to materially increase, and to take on a pronounced blennorrhagic character in regard to consistency, and the burning pain which accompanied it, excepting on the fourth case of the writer's series of six. This increase did not occur after subsequent injections, but began to decrease, and finally disappeared, whether due to the sole action of the serum or to the simultaneous action of both internal treatment and serum.

2. The action on inflammatory conditions of the articulations and of the testes, also in alleviating general conditions of pain, was quite marked, and much more prompt and effective than with other methods of treatment.

3. It causes the return of articular functions, or materially aids in the action of sodium salicylate, vesicants (isopathic method) and fibrolysin.

4. The injection is free from pain, and has produced no reaction, except in the first case, where there was an erythema seen around the site of the second injection, but unattended by pain or fever.

5. Anti-gonococcic serum has not been employed in the treatment of acute urethral blennorrhagia, nor does the writer think its use necessary in such cases.

A Plea for the Improvement in the Teaching and an Encouragement in the Study of Legal Medicine.

J. J. Buist (*British Medical Journal*, January 11, 1908) calls attention to the weakness of the medical man as a witness in court, particularly in testifying in criminal cases. He imputes this not so much to an inherent lack of honesty or ability on the part of the medical man, but rather to defective teaching of legal medicine in the medical colleges in the British Isles. He points to the fact that this teaching is defective because there are no medical lecturers in the schools who are specially qualified to teach the subject. This is due to the peculiar method of appointment of men to the vacant chair of legal medicine in the British medical school, *i. e.*, whenever a vacancy occurs in this chair it is filled by any one who has especially distinguished himself in medicine or surgery; not by one who has been specializing on legal medicine. He admits the scarcity of really ex-

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perienced men in this peculiar line of work, but says that this lack of material is due to want of support on the part of the state.

Secondly, these lectures are not made interesting or attractive, and little inducement is held out to the students to pay more than a cursory attention to the subject. Of course, this makes the student attend just enough lectures to have his papers signed, and, consequently, he obtains but a meager amount of information on this subject.

Thirdly, the course of lectures is defective in not providing for some instruction on legal procedure, and some explanation of certain legal definitions, as well as an elementary course in the law of evidence and criminal law.

Fourthly, there is no practical teaching on the subject. The writer does not mean by this the testing for poisons and ordinary microscopic work, but he means that the student should be compelled to attend cases in court, taking notes of evidence, and generally putting his medical knowledge to the test in a practical way by solving one of the problems of legal medicine. He emphasizes the importance of the practice of note-taking. If this is not cultivated, the medical witness will find that questions are asked, based upon previously-made inquiries, that he is unable to answer.

Fifthly, there is a dearth of literature on this subject. It is amusing to hear lawyers talking of Taylor with the same awe and veneration which the Christian shows for the Bible or the Mohammedan for the Koran. Only at the last assizes, the writer states, in response to a quotation from this authority thrown at the witness during cross-examination, great wonderment was expressed at his daring to think that there was any other authority in legal medicine besides Taylor. The writer points to the prolific legal medical literature of France as superior to the English, and explains this abundance of information on the ground of the French Government's fostering of this branch of medicine.

Sixthly, the examining boards of England slight this subject. He demonstrates that in the London University the candidate is allowed to choose the subject of public health, and that in this examination legal medicine is subsidiary to public health. He asked why should the State protect the health of the community, and not safeguard the life and liberty of the subject. It should do everything to prevent crime as well as disease.

As a solution of the problem, the writer says that the state can work a great improvement by providing suitable material—let the Home Office divide the country into areas, and let it appoint medical experts to devote their entire time to the work of their districts. Let the local expert, say, in a murder case, consult with the local practitioner, be present at the autopsy, inquest, police court, and assizes, and let him report to the Home Office on the case, and advise counsel on the medical features of the case.

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A record of all local cases can be kept and sent to a headquarters' commission of experts. The appointment of such experts would establish a foundation for a career, and would develop material for filling the chairs in the medical schools.

An Operation for the Stiffening of the Ankle-Joint in Infantile Paralysis.

J. E. Goldthwait (*The American Journal of Orthopedic Surgery*, Volume V, No. 3, 1908) reports an operative procedure in cases of infantile paralysis that promises to relieve the condition of flail-foot, with marked toe-drop, seen in these cases, *i. e.*, paralysis of the muscles of the lower leg, with weakening of the ligaments which support the foot and ankle, so that when the weight is borne upon the foot there is flattening of the arch with dropping of the inner side of the foot. Operations to relieve this condition are those that have for their purpose stiffening of the ankle-joint, arthrodesis. The commonly-used operations are those where there is a denudation of the upper articulation of the astragalus of its cartilage, as well as the opposing surface of the tibia, together with that on the joint-side of the malleoli. This union between the denuded bones does not always result, so that the flail-foot persists. Goldthwait's operation produces a union, with stiffening of the ankle-joint, as well as stiffening of the articulation between the astragalus and the os calcis, while the position of the outer malleolus, acting as it then does, as a buttress, keeps the foot erect. Motion at the midtarsal and anterior tarsal joints is possible, but as long as the other joints are stiff, and the line of weight-bearing correct, motion to this extent is an advantage. The operative technique is as follows: A curved incision, convex downward, is made over the outer side of the foot, over and under the external malleolus, the tendons of the peroneous longus and brevis are cut; also the lateral ligaments, the calcaneo-astragaloid, outer part of the astragalo-scaphoid, and the middle fasciculus of the external lateral ligament of the ankle; foot is bent to the inside, and disarticulated at the astragalo-calcaneo articulation. The astragalus remains attached to the tibia, with under surface exposed; its cartilage is then denuded, after which the same is done with the upper articular surface of the os calcis. The remainder of the lateral ankle ligament is divided and astragalus disarticulated, exposing its upper surface, as well as the tibial and fibular aspect of the ankle-joint. The cartilage is removed from all these bones. The foot is articulated, alignment of the foot made properly, with the foot straightened out, provided there is no tendency to incline the ankle to the inside or the foot to pronate. If the internal malleolus is prominent, or the foot in position of pronation, the result will be bad, as union will be difficult. If this is the case, remove a wedge-shaped piece of bone from the upper part of the astragalus, the

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base at the inner edge, so that when the bones are put together the alignment is correct. Owing to the removal of these cartilages, the space between the malleoli is widened, and makes a tendency to lateral motion. To remedy this, an oblique osteotomy of the fibula is performed. The malleolus is bent so that its axis is vertical, resting firmly against the astragalus. This brings three surfaces of the astragalus in contact with freshened bone so that the firmest union can take place. The lateral ligaments are sutured, the peroneal tendons joined, and the wound closed tightly. Apply the dressings and put on plaster of paris bandage, care being taken not to disturb the relations of the bones. Do not disturb the dressings for two weeks, after which see that the parts are in their correct position. If not, the healing is so fresh that the necessary changes can be made; if this is not necessary, the plaster can be reapplied, and allowed to remain undisturbed for another four weeks, after which start weight, bearing in the cast, the support being gradually omitted.

Hemorrhoids, with Special Reference to the Treatment Under Local Anesthesia.

J. H. Maynard (*Therapeutic Gazette*, April 15, 1908), refers to the fact that there is but scant teaching on rectal diseases in the average medical colleges, even though diseases like hemorrhoids are quite common. The main cause of hemorrhoids is the valveless condition of the veins of the portal circulation, together with the erect posture of the body. Exciting causes are those which produce a congestion of these veins, with a congenital or acquired weakness of their walls, thus obstructive disease of the heart, portal congestion; occupations requiring prolonged maintenance of the erect position, such as railroad employes, horseback riders; tight lacing, habitual retention of feces in the rectum, pressure from enlarged organs or growths in the pelvis; irregular and sedentary habits, or heavy lifting by persons unaccustomed to it. External hemorrhoids are often aggravated by uncleanliness, irregular habits and improper diet. Trauma to these external hemorrhoids produces a clotting of blood. This may go on to resolution, fibrous organization or suppuration, and may even form an external fistula. There is a great difference in the relative discomfort experienced by different patients, some being bothered a good deal, and others not paying any attention to the condition.

The most prominent symptom of internal hemorrhoids is bleeding, slight or severe; also heat, fullness and a sensation that the rectum has not expelled its contents. Thrombosis occurs as a result of trauma, or of infection. Some of this blood-clot is absorbed, and some remains, so that each succeeding attack sees a larger amount of "piles" than before. Increase of size leads to protrusion, with ulceration and bleeding. Alternate contraction and relaxation of the sphincter muscle causes pain, making

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the act of defecation unbearable, so that the patient puts it off, inducing constipation and profound nervous disorders.

First make your diagnosis. *Examine* the patient. Use inspection, palpation, and, lastly, the speculum. Medical treatment is only palliative, but often is the only treatment that the patient will tolerate. Diet should be simple; mainly vegetable, with no stimulants. Gentle purgation is necessary. Get normal peristalsis by means of appropriate diet as soon as possible. For external piles, use the hot sitz bath. Lead and opium wash is also good. Avoid mercurial ointments, because they are absorbed, and may set up a persistent diarrhea. An ointment of subsulphate of iron in the strength of one drachm to the ounce of a mixture of lanolin and vaselin is very efficacious. In the internal form, enemas of hot saline solution gradually changed to cold, are good to subdue the inflammation. Local steam baths often relieve the pain of a protruding hemorrhoid. Inject at bedtime a tablespoonful of witch hazel, in three or four ounces of warm water, which acts as a permanent astringent. During the acute attack, let the patient lie on his back with the hips elevated, which wonderfully relieves the congestion. Use ichthyol, one drachm to the ounce of vaselin, to relieve the intolerable itching, applied locally on pledgets of cotton. If hamamelis solution does not control the bleeding, use an enema of subsulphate of iron, five to ten per cent, or the officinal liquor ferri subsulphatis. A suppository of iron subsulphate or lead acetate also acts well.

Operative treatment of external piles consists in incision or excision, and removal of clots. This is done in this way: A one or two per cent solution of cocaine is injected, as recommended by Schleich, using a fine sterilized hypodermic needle. This is inserted into uninflamed tissue and pushed thence into the tumor. Do not inject too deeply, avoiding injection into the sac proper. Before cutting, put on a small artery forceps. Incise and remove the blood-clot with a small curette. Never use sutures unless the bleeding is profuse. Dress with a boric acid powder, and instruct the patient to wash off the parts with hot water after each defecation.

In internal hemorrhoids, use the cautery and clamp, or the ligature operation. The writer describes only the technique for this operation under local anesthesia. Under antiseptic precautions, insert the needle in the perineum in the median line, about one-half inch posterior to the anus. Insert the forefinger of the left hand in the rectum, and pull down the sphincter into easy reach of the needle. Pass the needle into the sphincter one-half inch to the left of the median line, where a few drops of cocaine are deposited. Deposit more cocaine as the needle is withdrawn. Repeat this on the right side without withdrawing the needle. Inject the balance of the syringeful into the median line. This gives but one puncture. Begin dilating the sphincter; in about three minutes it is practically painless.

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To anesthetize the hemorrhoids, inject one-tenth per cent solution of cocaine at the mucocutaneous border, and up as far as needed. The pile is then dissected up, as under general anesthesia, ligated, cut off, leaving a good stump. Let the patient ride home, and treat him as every patient after ligature operation is treated, remaining in bed until after the bowels move, which is accomplished on the second day. Inject olive oil before the bowel movement.

Capillary hemorrhoids are really nevi. They appear as small red spots, not projecting above the surface; they bleed readily. Either use the cautery, or nitric acid will cure them. Do not burn the surrounding mucosa. The injection of strong caustic solutions into hemorrhoidal masses is to be mentioned only to be condemned.

Clinical Value of the Pancreatic Reaction in the Urine.

Chalmers Watson (*British Medical Journal*, April 11, 1908), reports on the clinical value of the pancreatic reaction in urine, based upon over two hundred and fifty analyses. Mayo Robson, and others, have called attention to the frequency of pancreatic disease, and the possibility of recognition of the same through specific urinary reactions. Mayo Robson has had considerable experience with the so-called Cammidge reaction of pancreatic disease. The test was devised by Cammidge, in 1904, has been elaborated and improved, and, in 1908, its originator calls attention to it again as a result of an experience of 800 analyses.

Watson's interest in the reaction was aroused by an observation of a case of chronic pancreatitis in Sir Thomas Fraser's wards, Royal Infirmary, Edinburgh, Scotland, in which the diagnosis was confirmed by operation. Watson then gives his results in using this test in a series of over 250 analyses from 120 consecutive cases. The test employed was the "improved method," as described in Mayo Robson's and Cammidge's recently-published work on Diseases of the Pancreas: "the 'improved method' or 'C-reaction,' is based upon the different behavior of glycuronic acid and the sugars, in acid solutions, to tribasic lead acetate, the former being precipitated, and the latter remaining in solution. In performing the reaction a specimen of the twenty-four-hours urine, or the mixed morning and evening secretions, is filtered several times through the same filter-paper. If it is found free from sugar and albumin, and is acid in reaction, 2 c.c. of strong hydrochloric acid (sp. gr. 1.16) are mixed with 40 c.c. of the clear filtrate, and the mixture gently boiled on a sand-bath in a small flask, fitted with a funnel condenser. After ten minutes' boiling, the flask is well cooled in a stream of water, and the contents made up to 40 c.c. with cold, distilled water. The excess of acid is then neutralized by slowly adding eight grams of lead carbonate. After standing for a few minutes

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to allow of the completion of the reaction, the flask is again cooled in running water, and the contents filtered through a well-moistened, close-grained filter-paper until a perfectly clear filtrate is obtained. The acid filtrate is then well shaken with eight grams of powdered tribasic lead acetate, and the resulting precipitate removed by filtration, as clear a filtrate as possible being secured by repeating the filtrate several times, if necessary. Removal of the lead in solution is now necessary, being performed by precipitating the lead as sulphate; shake the filtrate with four grams of powdered sodium sulphate, heat the mixture to the boiling point, then cool in a stream of running water, removing the white precipitate by careful filtration. Ten cubic centimeters of the clear, transparent filtrate are made up to 17 c.c. with distilled water; it is then added to 0.8 grams of phenylhydrazin hydrochlorate, two grams sodium acetate, one c.c. of 50% acetic acid, contained in a small flask, with a funnel condenser. Boil the mixture on a sand-bath for ten minutes, filter hot through a small filter-paper, moistened with hot water, into a test tube provided with a 15 c.c. mark. Should the filtrate fall short of 15 c.c., make up to that amount with hot, distilled water, adding the water and mixing thoroughly with a glass rod. In cases of well-marked pancreatic inflammation, a light yellow, flocculent precipitate should appear in a few hours, but in less characteristic cases it may be necessary to leave the preparation over night. Under the microscope, this precipitate consists of long, light yellow, flexible, hair-like crystals, arranged in delicate sheaves, which, when irrigated with 33% sulphuric acid, melt away and disappear in from ten to fifteen minutes after the acid first touches them. Always examine with the microscope, as a small deposit may be present, and may be overlooked with the naked eye. To exclude traces of sugar, make a control, in the same way as this test is carried out, excepting that the control is not treated with hydrochloric acid. To remove any albumin that may be present, acidulate faintly, boil, filter off the albuminous precipitate, and make the specimen up to its original strength with distilled water. If the urine is alkaline, acidulate with hydrochloric acid, before beginning this test. The administration of calcium chloride interferes with this test."

Watson gives a tabulated report of his tests, and concludes as follows, as to the value of the reaction:

He confirms the conclusion arrived at by Robson and Cammidge, that there is a decided and important relationship between the pancreatic reaction in the urine and disease of the pancreas. His results differ from Cammidge's in that he records a higher percentage of positive results in cases similar to those that may have been included in Cammidge's list of control cases. Cammidge found, in a group of cases described as miscellaneous, other than those having a direct surgical interest in relation to disease of the bile ducts and pancreas, that only four out of ninety-two

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gave a positive reaction. The higher percentage of positive results recorded in Watson's series may be due to the fact that he made use of many serious medical cases of a nature commonly associated with advanced arterial disease, and chronic catarrhal conditions of the intestinal tract, conditions that are frequently attended with degenerative changes in the pancreas and other glands. His results led him to divide the cases in which the pancreatic reaction was present into the following groups:

1. A group in which there was definite clinical or pathological evidence of serious organic disease of the pancreas; for example, acute and chronic pancreatitis, usually associated with disease of the bile ducts.

2. A group in which the reaction in the urine was associated with pronounced arterial sclerosis, a condition usually accompanied by more or less sclerosis in different glands.

3. A group in which the reaction was dependent upon congestion and catarrhal conditions of the gland ducts and substance, with associated toxæmia; for example, advanced heart disease, appendicitis, pneumonia, malaria, and the like.

There is no doubt but that this reaction will prove of great value to the medical profession in the diagnosis and treatment of pancreatic disease.

Roentgen Rays in Gastric Diagnosis.

H. W. Soper (*Weekly Bulletin* of the St. Louis Medical Society, April 18, 1908) says that to comprehend the method of examination by means of the X-ray, it must be remembered that substances of like atomic weight and thickness cast the same shadow; that, for example, the lungs are visible because they are surrounded by tissues that naturally differ from them in density. Inasmuch as the gastrointestinal tract, including the œsophagus, is bordered by structures of much the same density, it can only be made visible by introducing some substance that has either a higher or lower specific gravity. The agents usually employed for this purpose are air and bismuth, either the metal or the subnitrate. Extensive researches have been carried on by many prominent investigators, and their results may be summed up as follows:

1. The diagnosis of the relationship of the stomach to the abdominal walls, the diaphragm, the large intestine, liver, etc.

2. The study of the effects of massage, electricity and other stimuli upon peristalsis.

3. The motility, *i. e.*, the time in which foods leave the stomach, has been studied chiefly by Jolasse and Schwartz and Kreuzfuchs. Jolasse's results were, briefly, that after the administration of the bismuth meal, normally no shadow should be visible after three hours in males and four

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hours in females. Six hours after the Leube midday meal no food should be present.

4. The differentiation between intra- and extraventricular tumors, (Holzknecht). It can be readily ascertained whether or not palpable epigastric tumors are connected with the stomach.

5. The differential diagnosis between extra- and intraventricular localization of other clinical symptoms. For example: It is of value to know whether or not an area of localized pain, or tenderness to pressure, is situated in the stomach.

6. The diagnosis of growths encroaching upon the cavity of the stomach; this refers particularly to carcinoma. Should the growth project into the large air bubble, which is always visible in the cardiac portion of the stomach, it becomes distinctly outlined. In growths near the pylorus, the loss of peristalsis is a valuable sign of infiltration of the wall. Antiperistalsis means pyloric-stenosis. Projections of the growths causing irregularities in the cavity are also of value. Quite often small nonpalpable growths become palpable under the Roentgen rays, probably due to the concentration of the attention of the observer.

7. The judgment of size, form and position of the stomach. This is studied chiefly with the patient in the erect posture. Rieder, Groedel and others maintain that the "fish-hook" or siphon form is the normal one.

Holzknecht found this same form in eighty per cent of the adults he examined, and terms it the usual one, corresponding to a certain degree of visceral ptosis, which occurs in this percentage of healthy persons. The normal type which Hulst designated the "steerborn form," he found in that small per cent (15-20) of persons with strong, well-developed abdominal muscles exhibiting no signs of ptosis. Pfahler, of Philadelphia, ably supports this view.

Holzknecht, basing his judgment upon his original studies of the physiology of respiration, concludes that the great majority of healthy adults exhibit a condition of moderate enteroptosis, the cause of which lies in a relaxation of the abdominal walls, producing changes in the intra-abdominal pressure, thus leading to a ptosis of the viscera. This, in turn, causes the narrowing and elongation of the thorax; in brief, the well-known clinical type designated by Stiller as asthenia universaliscongenita, or habitus enteroptoticus, which has provoked so much discussion. It is interesting to note that Virchow, as early as 1890, made practically the same statement, explaining it as a concomitant of the general muscular weakness or relaxation that the greater part of civilized mankind exhibits. Thus it appears that very early in life the stomach begins to gradually deviate from its seldom seen normal form and assumes the fish-hook or siphon shape. As Holzknecht emphasizes, this position of the stomach is not a genuine ptosis, but because of the fixation of the cardiac portion and

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the small degree of excursion permitted the pylorus, the condition is really one of suspension. That in severe grades of gastroptosis, or "relaxatio ventriculi" (Holzknecht), treatment directed towards elevating the ptotic small intestines, and thus restoring the cushion upon which the stomach normally rests, is the most efficacious; that under strong contraction of the abdominal muscles (Baucheinziehen) the stomach can be seen to assume the "steerborn," or normal form.

8. The observations of Hemmeter upon the precipitation of the bismuth in cases of gastric ulcer, have not been confirmed by other investigators. Schwarz's method of estimating the degree of acidity (HCl.) by means of connective tissue capsules containing bismuth has not been verified.

The True Attainment of Youth in Old Age.

J. Mount Bleyer (from advance sheets, *Medico-Legal Journal*), in this paper, read at the vice-presidential address at the annual dinner of the Medico-Legal Society of New York, in response to the subject on "Longevity," particularly addressed those present who had passed to the lee-side of the half century mark. The paper is a sermon on optimism, pointing out that keeping alive the sympathies and the affections is what constitutes happiness on earth, and what constitutes holding one's age well. "If the soul be not young, youth as to birthdays has no advantage over senility." The writer further says, that to men who have no resource in themselves for being happy, every age is burdensome; and were those who complain of the shortness of life as bringing them so soon to the weakness and torpidity of old age to live for seven hundred years, instead of seventy, they would be none the better off. He maintains that those who are old at sixty or seventy are not made old by lapse of years, but are old because of sloth or weakness, the result of crushing injuries of early years—bad school discipline taking the first place—or it comes of indifference to religious principle, and thus to giving way to "envy, hatred and malice."

Among other trite remarks, the writer says that old age is the death of youth, not the passing of time. We live not by our years, but by our experiences, by the weeks, the days, the hours—aye, the moments—that have uplifted us beyond our mere selves, and makes us men and women in our full sense, not only as inheritors of the past, but as heirs to the future as well. To form a genuine idea of what age we have attained, we should cast up not our anniversaries, but days and hours; and to satisfy ourselves how long our lives have been, we should reflect on the books we have read, and agreeable objects we have had before our eyes, the pleasant places we have visited, the intercourses of friendship by which we have been made glad, together with the aspirations we have ennobled, and the hopes which have cheered us. We should "taste in thought again" the

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sweet hours by the sea, in the green field, in our travels, and the shining, balmy, fragrant moments, each in itself a little summer, brought by the tones, the smiles, the touch of our beloved. These are the things that make life.

We are young while our hearts are aflame with the rich spiritualities of life. We are young while we take a vital interest in all the interests of our common humanity. We are young while we love. We are young while we sympathize with every cry of human agony, while our eyes flash, and our hearts grow indignant over the brutalities and cruelties and greeds of mankind. We are young while we are tolerant and yet helpful, while we weep with those who suffer, while we help those who are helpless, while we bind up the bruises of the injured, while we live a life that is not only helpful, but uplifting, and raise the fallen. We are young with the divinity of love that greets us joyfully and proudly with the kindling sun of the morning of hope and of promise, with the growth of middle life that is one long battle under the flags of truth and knowledge, and that, having borne the brunt and heat of the day, continues its youth through age, as the sunset renews the lines of the morning, deepening gradually with the violet shades of the evening, that teach us sympathy, and lend us rest. And then the sage sits watching beneath the firmament of stars, growing wiser and wiser in the spiritualities, deeper and deeper in the knowledge of life, as he sits there in silent meditation, waiting for that new dawning of the eternal following upon the passing of our mortal hours. Who shall call a man of this kind old? Who shall rather say, That man is the youngest of the Immortals? Wise were the Greeks who crowned youth with a garland of roses. But wiser were the Druids, whose snowy-headed priests crowned their wisdom with the simple oak wreath. For the rose garland becomes a crown of thorns, while the acorn produces the mighty oak, that held its growth for a thousand years!

A REVIVAL of boxing is on in St. Bartholomew's Hospital, states the *Daily* (English) *Telegraph*. A boxing society has grown out of the desire for exercise, and a petition was set before the Treasurer and Almoners for the use of the old surgery (which was thrown out of service by the opening of the new buildings) as a boxing saloon. It is well observed that in hospital life it is always a problem amongst residents and students, whose work keeps them for many hours daily in the wards, how to get exercise. This can not be had by way of outdoor sports (though tennis is much in vogue in our American hospitals). Some form of exercise is certainly essential for internes lest they become "hospitalized"—the term given to an indefinite condition of ill-health and predisposition to disease which is consequent upon incessant work in the hospital atmosphere.

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EDITORIAL

WHAT IS AN INDEPENDENT MEDICAL JOURNAL?

Much has been said and written of late, for and against the independent medical journal, and the term has been bandied to and fro in controversy, and so misused that it is doubtful whether at the present time even the thoughtful and impartial man has any clear or well-defined idea of its true significance.

Properly speaking, no medical journal is independent in the bald and absolute sense of the term, inasmuch as it costs money to prepare and print a paper—for instance, every journal depends, in the first place, upon some one or something for its financial support. And such are the workings of journalistic economics that the nature of this financial dependence very largely determines the direction and quality of its independence in other matters. Under the system by which journals are nowadays conducted, this pecuniary dependence rests on one or other of three sources: its subscription list, its advertisers, or upon some individual or organization backing.

Considering the last of these alternatives first, it might be supposed that when the sinews of war are furnished by the individual who conducts the journal, *i. e.*, when the editor is the owner, and publishes his journal not as a business enterprise, but out of his personal funds, for the purpose of promulgating what he considers valuable information, a degree of journalistic independence would be achieved that is almost ideal. But a very little serious reflection will show that such is far from being the case. The very fact that the editor is responsible to nobody begets a condition that is the very reverse of true independence, just as moral irresponsibility in the sociologic realm is productive, not of liberty, but of license, which is the worst form of slavery. Such a man, with whatever good intentions he may set out, sooner or later inevitably rivets upon his journal the fetters of his own unchecked and biased judgment, and imposes upon his readers, both in literature and in advertisements, that which he thinks they should have, rather than that which their best and broadest interests demand.

Still more fatal to any kind of independence worth the name, is that condition wherein the editor of the journal is accountable to a person or organization avowedly standing for paternalism or predetermined dogmas. Theoretically, of course, the situation ought to be precisely the same as that in which the owner finances and edits his own journal, on the principle that what one does through another one does himself. In practice, how-

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ever, it is usually the case that what one does through another he does more extremely and unreasonably than that which he does himself. And when the individual is replaced by the impersonal organization, then the arbitrariness of the situation is still further intensified. Such a publication ceases to be a journal altogether, and becomes an organ. And while an organ may have—and in some instances does usefully fill—a legitimate place in literature, it can not, and does not, exercise the prime functions of journalism, which are fundamentally inconsistent with any special pleadings or *ex parte* relations.

Of those journals whose dependence for financial support rests between the subscription list and the advertisements, a comparatively small proportion rely upon one or the other exclusively. A few, possibly—we do not recall any at the moment—discard advertisements altogether, and depend solely on subscriptions. Others play altogether to the advertisers, and distribute their issues practically gratis for the prime purpose of making a circulation for the basis of their advertising contracts. It should be needless to point out the mischievous tendencies of both these courses, especially of the latter.

The majority of journals, however, which are published for profit, look to both subscriptions and advertisements for their financial support. They are not literally independent, either as to their finances or as to their literature and advertisements; but their dependence is of the normal, salutary type, just as every individual or concern doing business directly with the public is dependent upon those to whom he looks for patronage. The success of his enterprise, from every standpoint, depends upon the adequacy with which he meets the public demand for quality and usefulness of his goods, and in proportion as he attains this end his journal acquires a higher and higher degree of genuine independence, and of real authority.

We have already referred to the mutual influence exercised by the subscription list (representing the reading matter of the journal) and the advertisements upon each other, which seems to be a phase of the question that is very much in the limelight at the present time. This reciprocal relationship applies to both the quality and the quantity of each. The better the material served up in the reading columns, the more numerous and better class the subscription list; and the more numerous and better class the subscription list, the more valuable and select the advertising pages.

It is impossible for the independent medical journal long to foist upon its readers undesirable reading or advertising. Depending, as he does, on the patronage of both, and solely upon that patronage, it is simply opposed to the publisher's best interests to do so. His interests are identical with those of his readers and advertisers—from a different motive, perhaps, but still from a perfectly legitimate and normal economic motive, such as leads every purveyor to furnish genuine and valuable goods. And if, through

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an error of judgment such as every human being is liable to, your independent editor allows a really undesirable feature to creep into either his reading or his advertising pages, it will be speedily reckoned with and eliminated, and the balance automatically restored, by means of the economic pinch inflicted upon the business interests of the publication. The fact, it may be noted, in closing, that reputable and successful independent medical journals are, with the approval of their clientage, pursuing editorial policies and carrying advertisements upon which some society organs are making savage and unreasonable attacks, would clearly indicate to a thoughtful man that these association organs do not reflect public medical sentiment. And that, in fine, is what constitutes independence in medical journalism.

FALSE MODESTY.

As we pointed out in an editorial in the March issue of the BRIEF, entitled "The Prophylaxis of Venereal Diseases," the problem consists mainly in a system of education, *i. e.*, parents should teach their children how to interpret the anatomical and physiological phenomena arising from their sexual apparatus; lectures should be given in the schools to advanced students on the nature, cause and methods of contagion of the venereal diseases, so that the young man or woman will grow up with a full comprehension of the whole proposition, instead of learning it piecemeal by bitter experience. The *Ladies' Home Journal* for May, 1908, editorializes on this subject, taking its cue from the recent declaration of the Bishop of London, who is now actively inaugurating a campaign in England along these lines. The Bishop of London says, among other things, "There shall be plain talking; the time has gone by for whispers and paraphrases. Boys and girls must be told what these vital facts of life mean, and they must be given the proper knowledge of their bodies, and the proper care of them. No abstractions; the only way now is to be frank, man to man."

It is truly gratifying to witness this remarkable stand taken by a man of the influence and position of the Bishop of London. It means that the movement will have the united clergy of the United Kingdom back of it, and this power is certainly an effective one on any public question, particularly one of this peculiar kind. The clergy have been exceptionally obstinate, as a class, in fighting all movements on the part of the medical profession looking to a prevention of the spread of venereal diseases by the institution of State control and medical inspection of prostitutes, claiming that this "licensing" of prostitution is absolutely immoral. We have no quarrel with them on that account. As a profession, we will be satisfied in having the opposition of the cloth in fighting the movements to control the spread of venereal diseases in that way, provided that they give as enthusiastic support to the fundamental idea of fighting these diseases by

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a system of broadening of the mind by means of parental talks to children and school lecturing on this all-important subject.

The *Ladies' Home Journal* calls for a similar champion in America to lead the procession of education in doing away with this false modesty and ignorance that is back of the greater part of the existence of venereal diseases in the land. It asks pertinently, "Where is the American 'Bishop of London' who shall quicken the consciences of the parents of the United States? Rarely has an occasion called so loudly for a man!" We repeat the query, and hope that ere long such a valiant Paladin will be found, to cry out the importance of a reign of truth instead of a reign of ignorance and mock modesty. Let the "lid" reforming rest in peace, and let this new and humane era of reform be inaugurated. Let it grow apace and spread like wildfire across the land. Such an education of our youth will mean more in the prevention of disease and misery, and in the prolongation of life, than all the anti-alcoholic reforming will ever do. Should this movement be consummated, the eagles of victory will perch upon the banners of those enthusiasts who have striven, and are still striving, in the cause of preventive medicine.

NEW IDEAS ON FRACTURES.

Lucas-Championnière, the well-known French surgeon, pointedly calls attention to some new ideas on the treatment of fractures, in the British *Medical Journal* for March 28, 1908. He took as his text a recent decision of the British courts, where a patient sued several medical men for negligence in the treatment of a dislocation of the humerus at the shoulder-joint, and a fracture of the upper part of the humerus. It seems that the first physician called to the case recognized only the dislocation, and reduced it by the method of putting the foot in the axilla with extension. Another physician called into the case in consultation then noticed a crepitation, and made out a fracture at the extremity of the humerus. On account of the enormous swelling, no suitable apparatus could be worn. No radiograph was taken because it was not considered, at that time, that any information would be obtained in that way that could be utilized in the treatment of the case. A radiograph was subsequently taken, however, but no operation was thought justifiable to improve the condition. Six weeks later, the patient left home, and suffering now from very marked loss of function and persistent pain, he sued his medical advisors for damages. The plaintiff's lawyers contended that it was not proved that a dislocation had existed; that no radiograph was taken; that the doctors failed to make out the fracture at the time of the first observation; that the method of reduction of the dislocated humerus, with the heel in the axilla, was an improper method, and that finally the patient was treated

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without apparatus, and without splints; a treatment inadmissible in a case of fracture. In spite of the evidence of competent surgeons that the case was correctly handled, the jury awarded damages against the physicians in a smaller sum than was claimed by the plaintiff.

The arguments of the learned counsel for the plaintiff were that this matter of the treatment of fractures can well be left to the common sense of any layman, for, are not fractures simple affairs, and does not any one and every one understand how simple it is to reduce a fracture and get perfect results? Is it not true that with the assistance of a radiograph one can see just how the bones lay, and just look how easy it is to put them in proper approximation! Moreover, as was claimed in this case, is it not true that perfect immobilization is the proper way to treat a fractured bone? Absolute reference to well-known works on surgery practically conceded all these points, and served to strengthen the preconceived notions in the jurors' minds that they understood how to treat a broken bone as well as any surgeon.

It is an undeniable fact that the standard works on surgery in respect to the treatment of fractures are behind the times. There is a firm belief in the minds of the profession, as well as in the minds of the laity, that the treatment of fractures consists entirely in the immobilization of the injured member. It is necessary to uproot a great many erroneous ideas among medical men about fractures in order to make them appreciate the modern views on this subject.

That it is necessary and proper to keep all fractures immobilized, is absolutely erroneous. In many cases it is proper to allow some movement as soon after the occurrence of the traumatism as possible. A great many doctors think that the reduction of a fracture means simply bringing the ends of the fractured bone in apposition; this is a grave error. Fractures of bones are accompanied by lesions of the soft parts as well, and simply bringing the ends of the bones together, either passively or forcibly, does not necessarily mean a perfect result. Consequently, control of the treatment of fractures by radiography is no absolute assurance that restoration of function will uneventfully ensue. The profession, as well as the public, must unlearn a great many things that they now regard as proven facts. To the medical profession we would recommend a speedy application of these details to their methods of procedure in dealing with fractures. Above all, the profession should seek to dispel the idea that exists among the public generally that fracture treatment is a matter of ease, and that its control by radiography renders a bad result impossible. The public must learn that there are a great many points about the treatment of fractures that must remain beyond their understanding—in the absence of a thorough training in medicine on their part—and that the judgment of competent medical men in matters of this kind must decide the fate of

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these cases. Had the judge and jurors in this particular case in England not been possessed of the notion that fracture treatment is easy (an impression doubtless given them by conversation with professional men) they would never in the world have returned this unjust verdict.

REFORM OF MEDICAL LANGUAGE.

In the whole history of science there exists no greater nonsense than the defense of Erasmian pronounciation and the classification of Greek with the dead languages. This error has been of serious consequences to medical science; it has been the cause of corruption in medical language and in medicine itself, for nobody can deny that corruption in medical language is corruption in medicine. All this has been demonstrated in the MEDICAL BRIEF (Memorial on Medical Language, September and October, 1907). All attempts thus far by physicians of more or less learning in the old classics to remedy the crying evil have not only been failures, but have added more and more confusion to that which existed already, because they were guided by Greek professors who will not admit that Greek, as taught in our schools, is only a small part of the Greek language. New words are coined with the aid of the Greek dictionary, but without the ability of speaking or thinking in Greek; without commanding the genius of the language. The task of remedying the evil is by no means hailed with joy by old gentlemen belonging to a past generation of that kind who do not support the cause of progress. In this case many of the prominent and influential men who control medical politics, medical societies, medical journals, seem to have united to silence the cause of reform. The profession at large, however, takes interest in the onomatology question, otherwise independent medical journals would not continue to bring articles on the subject.

WHAT'S IN A NAME?

A Paris manufacturer is able to reply to this well-worn question, "A fine of £80." This is the amount of damages obtained by Dr. Roux, the director of the Pasteur Institute, against a Paris pipe manufacturer for selling a pipe with a special contrivance, which he called the "Dr. Roux filtering apparatus." The Doctor objected to this, and followed the example given by Professor Metchnikoff, who recently obtained an injunction to prevent a pharmacist from using his name illicitly for business purposes. In the case of Dr. Roux the manufacturer put in a rather ingenuous defense to the effect that he had sent a sample of the pipe to Dr. Roux, saying it was proposed to use his name in connection with it, and having received no reply had accepted this as a tacit permission to use the name. —*The Chemist and Druggist*, London, March, 1908).

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BOOK NOTICES.

AN ABRIDGMENT OF PRACTICAL MEDICINE AND ALLIED SCIENCES.—Arranged in Alphabetical Order, with Definitions of Principal Medical Terms. By J. Candor McLaughlin, M. D., Kansas City, Mo.

This is a little book printed on thin paper, in fine type, representing in alphabetical order the principal medical words and names of things medical and scientific. It fills in the place between the medical dictionary and the medical encyclopœdia. It is a kind of vest-pocket *vade mecum* of medicine and surgery.

AN AID TO MATERIA MEDICA.—By Robert H. M. Dawbarn, M. D., Professor of Surgery and of Surgical Anatomy, New York Polyclinic Medical School; Professor of Surgery, Fordham Medical College, New York; Visiting Surgeon to the City Hospital, New York. Fourth edition. Revised and enlarged. By Eden V. Delphey, M. D. New York: The Macmillan Company, 1908. Price, $1.75 net.

This little book is just what its name implies, an aid to the study of materia medica. It has an alphabetical list of the official drugs of the U. S. P., with a list of articles dismissed from the Pharmacopœia and a list of those that have been added to it. A very well written chapter on prescription-writing will prove of service to the student and young medical practitioner. A good working list of the newer unofficial preparations is also given.

NERVOUS AND MENTAL DISEASES. FOR STUDENTS AND PRACTITIONERS.—By Charles S. Potts, M. D., Professor of Neurology in the Medico-Chirurgical College of Philadelphia. New (second) edition, thoroughly revised and greatly enlarged. In one 12mo. volume of 570 pages, with 133 engravings and 9 full-page plates. Price, cloth, $2.50 net. Lea & Febiger, Publishers, Philadelphia and New York.

This book of 570 pages goes over the field of nervous and mental diseases, points out their etiology, gives their symptoms and tells us the same dreary story of impossibility of curing most of them.

That part of the book devoted to the consideration of mental diseases is up to date and gives a fair idea of the essential forms of insanity and idiocy. The work is intended as a hand-book for beginners. It seems to represent in condensed form all that is definitely known on these questions.

MATERIA MEDICA FOR NURSES, WITH AN EPITOME OF OFFICIAL DRUGS, PREPARATIONS AND CHEMICALS, GIVING THEIR MEDICINAL USES AND DOSES, AND QUESTIONS FOR SELF-EXAMINATION.—By John E. Groff, Ph. G., Apothecary in the Rhode Island Hospital; Professor of Materia Medica in the Rhode Island College of Medicine. Fourth Revised Edition. Rearranged by Lucy C. Ayers, Superintendent of Nurses' Training School, Rhode Island Hospital. Sections of Therapeutics, Rewritten by Herman C. Pitts, M. D., Gynecological Surgeon, Rhode Island Hospital. Philadelphia. P. Blakiston's Son & Company, 1908. Price, $1.25 net.

This is a compact little work on materia medica for nurses. If the trained nurse learns the contents of this book, then she will certainly prove a competent helper for the physician. There is nothing in the book that she should not know, and so the book should prove helpful to her in her training course, and as long thereafter as she practices her profession.

THE INTERNATIONAL MEDICAL ANNUAL.—A Year-Book of Treatment and Practitioner's Index, 1908. Twenty-sixth year. New York. E. B. Treat & Company. Price $3.50.

Treat's Annual is undoubtedly the best year-book on medicine and surgery that we have seen. This edition of 1908 gives a careful review of the literature of medicine, with particular attention to the new things that have been successfully worked out. For instance: Blood pressure determination, opsonic index,

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etc. The names of the department editors represent a sufficient guarantee of the value of their editorial dicta on the several branches which they discuss. Owing to the fact that this book essentially covers the whole field of medicine, it would appear injudicious and impossible, in fact, for the reviewer to point out any "special" part. Every subject is important, else it would not be mentioned in such a book. We can simply give it our commendation, allowing the reading medical world to verify this recommendation.

COSMETIC SURGERY. THE CORRECTION OF FEATURAL IMPERFECTIONS.—By Charles C. Miller, M. D. Second edition, enlarged. Including the description of numerous operations for improving the appearance of the face. 160 pages; 96 illustrations. Prepaid, $1.50. Published by the author, 70 State street, Chicago.

This work on a rather unique subject, which has been commonly disregarded by the regular medical practitioners and given over to the quacks, represents the author's views and technique in cosmetic surgery. Whether or not it is proper to devote even the space of one little volume such as this is to a discussion of such matters as "making dimples" in the human face; is problematical. While we deplore at times the lack of beauty in certain individuals, whether we should seek to correct hereditary featural irregularities by surgical operations is a mooted point with us. Whether we should seek to encourage or discourage the public in their efforts to correct, for instance, such trifles as "outstanding ears" is another point to be discussed. However, as a general proposition, those operations which can be performed with a good measure of success—and without danger to the patient—may be recommended. This work gives all these technical procedures, and for those who are desirous of entering upon the practice of such operations, the reading of Miller's book will doubtless prove of great benefit.

INTERNATIONAL CLINICS.—A Quarterly of Illustrated Clinical Lectures on Medicine and Surgery by Leading Members of the Medical Profession Throughout the World. Edited by W. T. Longpope, M. D., Philadelphia. Volume I, eighteenth series, 1908. Philadelphia and London. J. B. Lippincott Company, 1908.

This well-known series, called the International Clinics, has long since made a reputation as high as any work of its kind that has ever been published, *i. e.*, as a medium of publication of clinical lectures by leaders in medicine and surgery throughout the medical world. The departments of Treatment, Medicine and Surgery, in this present volume, show exceedingly good care in presenting in an admirable way, up-to-date subjects like the Sanatorium Treatment of Tuberculosis, the Value of the Opsonic Index and the Employment of Vaccines in Certain Infective Conditions in Children, the Paratyphoid Fevers, and others. A lecture by that master surgeon, John B. Deaver, of Philadelphia, on "Diseases of the Gall-Bladder," deserves special mention.

SYPHILIS; A TREATISE FOR PRACTITIONERS. By Edward L. Keyes, Jr., A. B., M. D., Ph. D., Clinical Professor of Genito-Urinary Surgery, New York Polyclinic Medical School and Hospital; Lecturer on Surgery, Cornell University Medical School; Surgeon to St. Vincent's Hospital. With 69 illustrations in the text and 9 plates, 7 of which are colored. New York and London: D. Appleton & Company. 1908.

The subject of syphilis is interesting to us at all times, because of the prevalence of the disease, and the fact that every practitioner, no matter how small or how large his practice, meets it face to face almost every day of his life. Syphilis and tuberculosis, two foes omnipresent, present a problem for the practitioner and the student of preventive medicine that needs must be an everlasting fight. This work of Keyes is strictly an American view of the disease, its manifestations and its treat-

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ment. It is based upon an observation of 2,500 cases of the writer's and his father, both careful observers of this disease. As such it is entitled to consideration and careful perusal. As such it is essentially a practical volume, and fills a place in the library of the practical physician. It has throughout the conservative character which is essential to a work of this character. It is with genuine pleasure, therefore, that the reviewer recommends it to our readers.

THE DIAGNOSIS AND TREATMENT OF WOMEN.—By Harry Sturgeon Crossen, M. D., Clinical Professor of Gynecology, Washington University; Gynecologist to Washington University Hospital and Chief of the Gynecological Clinic; Associate Gynecologist, St. Louis Mullanphy Hospital; formerly Superintendent of the St. Louis Female Hospital, etc. With 700 illustrations. C. V. Mosby Medical Book and Publishing Company, St. Louis, 1907.

Crossen's work on this muchly-discussed subject fills in the gap between the ordinary text-book on gynecology and the larger manuals of operative procedure in gynecologic surgery. This work aims to instruct the student and practitioner in the methods of making the diagnosis and applying the treatment, medical or surgical, in diseases in the female pelvis. It is comprehensive and yet seems to go over the entire field of gynecology. There are pages and pages on differential diagnosis and advice to those interested in this subject in making a diagnosis. More stress seems to be laid on the making of the diagnosis than on the treatment of the condition—not a fault, by any means. The illustrations are remarkably lucid and assist in the understanding of the text. The majority of these illustrations have been borrowed from other text-books. We don't like second-hand pictures. No attempt is made to give all the steps in the major operative procedures —this information can be obtained elsewhere. The work shows the handiwork of a teacher first and an operator afterwards. No more complimentary expression may be given to a text-book than this.

THE BLUES (SPLANCHNIC NEURASTHENIA). CAUSES AND CURE.—By Albert Abrams, A. M., M. D. (Heidelberg), F. R. M. S., Consulting Physician Denver National Hospital for Consumptives, The Mount Zion and the French Hospitals, San Francisco; President of the Emanuel Sisterhood Polyclinic; formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, San Francisco. Illustrated. Third edition, revised and enlarged, New York: E. B. Treat and Company, 1908. Price, $1.50.

We have in this work of Abrams a most valuable addition to the literature of internal medicine. He takes as his theme the question of splanchnic neurasthenia and thoroughly demonstrates the existence of this entity. The "blues," as it is popularly called, is merely another name for this condition. Back of it all Abrams considers a congestion of the intra-abdominal veins the provoking cause. That this condition is quite common any practitioner of any experience at all must admit. That these patients are too often neglected both by themselves and their physicians is also a fact that is incontrovertible. This book enters into a most scientific and exhaustive discussion of the pathologic physiology of the abdominal derangement which causes this condition. It goes deeply into the question of so-called "sexual neurasthenia," with illustrative cases.

Having called attention to the existence and general lack of treatment of this affection, the author takes up the subject of treatment and shows brilliant results in his own experience by following out outlines which he succinctly lays down in this book. The book is deserving of wide reading because of the importance of the subject, because of the author's admirable presentation of the subject and because of the promise of good results in the treatment of the con-

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dition. It approaches as near to a classic on internal medicine as it has been the reviewer's good fortune to read in many a day.

THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS.—By Francis M. Pottenger, A. M., M. D., Monrovia, California, Medical Director of the Pottenger Sanatorium for Diseases of the Lungs and Throat, Monrovia, California; Professor of Clinical Medicine, Medical Department, University of Southern California; Chief of the Medical Staff of the Helping Station of the Southern California Anti-Tuberculosis League, Los Angeles, California; Fellow of the American Academy of Medicine; Member of the American Climatological Association; Member of the American Therapeutic Society; Corresponding Member of the International Anti-Tuberculosis Association, etc. New York. William Wood & Company, 1908. Price, $3.50 net.

The subject of the diagnosis and treatment of tuberculosis is probably receiving more attention at the hands of the medical profession at the present time than it has ever received before. This work is a carefully written volume of 351 pages, devoted to this question. It takes up the diagnosis of the condition, beginning with the staining of the tubercle bacillus. It goes into the question of identification of the disease by means of physical signs. In this connection the writer lays emphasis on his so-called method of "elastic tube" percussion, a method which he originated in determining dullness in the thorax.

This book gives in full detail the method of treating tuberculosis by open air; it explains *in toto* all that we know of the rest and diet factors in the treatment of this disease; the effects of hydrotherapy are exhaustively considered. Last, but not least, that part of the book devoted to the consideration of the so-called specific treatment or sero-therapy of tuberculosis, is full and up-to-date. Pottenger has had a vast clinical experience with this disease, and his book can be taken as the product of a mind enriched by such clinical experience and absolute familiarity with the published works of other experienced observers.

The readers of the book are, therefore, fortunate to come face to face, as it were, with a man possessed of such fitting qualities to discourse upon such an important subject as this one. There is no question in medicine that is attracting our attention so much as tuberculosis, and a book of this kind will certainly serve as a veritable encyclopedia on tuberculosis.

AMERICAN PRACTICE OF SURGERY.—A Complete System of the Science and Art of Surgery, by Representative Surgeons of the United States and Canada. Editors: Joseph D. Bryant, M. D., LL. D., Albert H. Buck, M. D., of New York City. Complete in eight volumes. Profusely illustrated. Volume IV. New York. William Wood & Company. 1908.

This volume constitutes the fourth one of a series of eight on the science and art of surgery. The following constitute the staff of writers for this volume: Freeman Allen, of Boston; Russell S. Fowler, of New York City; Frederick E. Garland, of Boston; Geo. Ben Johnston, of Richmond; John M. Keyes, of New York City; James Farandis Mitchell, of Washington, D. C.; Charles B. G. de Nancrede, of Ann Arbor, Mich.; Charles Fairbank Painter, of Boston; Emmet Rixford, of San Francisco; William Louis Rodman, of Philadelphia; John Stewart Rodman, of Philadelphia; Clarence L. Stair, Toronto, Canada; George David Stewart, of New York City; James S. Stone, of Boston; Horace J. Whitacre, of Cincinnati, and Royal Whitman, of New York City.

The contents consist of Part XIII, on Diseases and Injuries of Joints; Part XIV, on Operative Surgery; Part XV, on Orthopedic Surgery. The book, as a whole, is an excellent example of the admirable work of the publisher and printer—clear, legible type and fine paper, with illustrations that are graphic and depicting surgical conditions and

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apparatus with life-like accuracy. The text is well written, and strictly up-to-date, coming as it does from the minds of these foremost surgeons of America. The book is well adapted for those who are intent upon the practice of surgery. It is too large a book for the student, but will serve him well after his graduation, as it will serve well all medical men who are interested in surgery. A most interesting and important chapter is that written by Nancrede: "Influences and Conditions Which Should Be Taken Into Account Before One Decides to Operate." Here Nancrede considers anesthesia, environment, fear, contra-indications for operations, and the influences of the several important systems of the body upon the surgical condition and upon the surgical operation, to-wit: The circulatory system, the nervous system and the genito-urinary system, as well as the presence of diseases of other kinds likely to affect the result of the operative interference.

Allen and Garland, of Boston, consider, in a lengthy discussion, the question of anesthesia, and this, indeed, is a part of the book which deserves especial mention. There is no phase of the question that is not discussed. It would take too long a review to go into every chapter, and so we must content ourselves with saying that the work, from cover to cover, is ideal. To those who seek a reference book, and a good text-book on up-to-date, conservative surgery, we take pleasure in commending this volume.

PAMPHLETS.

"Some of Humanity's Debts to Vivisection," by R. W. Shufeldt, M. D. (From Medico-Legal Journal, March, 1908).

Second Annual Report, 1907. St. Louis Skin and Cancer Hospital: "An Inquiry Into the True Meaning and Intent of the Postal Laws Relating to the Public Press," by Wilmer Atkinson.

"The Thermal Death-Point of Pathogenic Micro-Organisms in Milk," by M. J. Rosenau, Director Hygienic Laboratory. (Bulletin No. 42, January, 1908, U. S. P. H. and M. H. S.).

"The Attainment of Youth in Old Age," by Dr. J. Mount Bleyer, LL. D., F. R. A. M. S., of New York City, Vice-President Medico-Legal Society. (From advance sheets, Medico-Legal Journal).

"Rabies and Its Increasing Prevalence," by George H. Hart, V. M. D., Assistant in Pathology and Bacteriology, Pathological Division, Bureau of Animal Industry. (Circular 129, April, 1908).

"Some Phases of the Surgical Treatment of Cancer—A Clinical Lecture," by William Seaman Bainbridge, M. D., New York. (Reprinted from the American Journal of Surgery, November, 1907).

"Tubercle Bacilli in Butter; Their Occurrence, Vitality and Significance," by E. C. Schroeder, M. D. V., and W. E. Cotton, Bureau of Animal Industry, U. S. Department of Agriculture. (Circular 127, April, 1908).

"Annual Report of the Surgeon-General of the Public Health and Marine-Hospital Service of the United States for the Fiscal Year, 1907." (Washington Government Printing Office, 1908). The annual report of the Surgeon-General of this Department of the United States Government gives in detail the work of the department. It shows how the personnel of the service is engaged on matters of public health, and details the various scientific researches which have been instituted by officers of this service.

"Milk and Its Relation to the Public Health" (by various authors). Hygienic Laboratory. Bulletin No. 41, U. S. Public Health and Marine-Hospital Service. This is a joint contribution of essays upon Milk and Its Relation to the Public Health by officers of the Marine-Hospital Service and scientists of the Bureaus of Animal Industry and Chemistry of the Department of Agriculture. It gives some very interesting information on this subject.

CLINICAL NOTES.

LA GRIPPE CONVALESCENCE.

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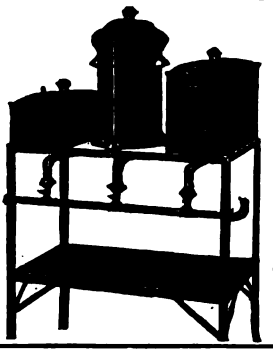

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"chronic shock." The heart is weak and unresponsive to demands on its energy, the blood-vessels are in a state of atonicity, and the blood pressure is dangerously affected by every mental or physical influence.

Under these conditions it is apparent that the la grippe convalescent is not only constantly menaced by serious heart or circulatory depression, but by many acute diseases as well.

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Dr. I. N. Cohen, of LaCrosse, Wis., under date of March 19, 1908, writes:

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ing exclusively of the medical side of this subject.

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John C. DaCosta, Jr.'s, Physical Diagnosis.

Todd's Clinical Diagnosis.

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Medical Emergencies.

A Great Society for Coping with the Emergencies of Peace and War.

The National Volunteer Emergency Service, instituted in 1900, has recently been reorganized by the election of Dr. James Evelyn Pilcher, the distinguished editor of *The Military Surgeon*, as its Director-General, and Dr. F. Elbert Davis, of New York, as its Adjutant-General. Its work will be conducted along military lines, the details being worked out in three separate Corps, a First Aid Corps, a Public Health Corps, and a Medical Corps—the latter consisting of physicians, with rank from lieutenant to colonel, according to length of service, to whom are afforded special opportunities for emergency training. It includes among its personnel a large number of notable personages, and is rapidly extending its membership throughout the country. Full details regarding the service and its great work may be obtained by addressing Director-General Pilcher at Carlisle, Pa.

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., JULY, 1908. No. 7.

WHAT MEDICAL JOURNALS CAN DO TO REFORM MEDICO-LEGAL INQUIRIES.

BY R. B. H. GRADWOHL, M. D., St. Louis, Mo.

Editor of THE MEDICAL BRIEF.

[Paper read before the Thirty-Ninth Annual Meeting of the American Medical Editors' Association, held at the Auditorium Hotel, Chicago, Ill., May 30 to June 1, 1908.]

Among other things, it has always been considered the heaven-born privilege of the editorial writer to bring about reform. This is my apology for bringing before this association the need of reformation of the medical expert in general, the raising of this expert from his present lowly position, and again the necessity of doing away with the present obsolete and improperly constituted coroner's system; last, but not least, the institution of better methods of teaching legal medicine in our medical schools. It is proper and timely for this body to give serious consideration to this matter, so that, as in all things, the press may lead the way and blaze the trail for a better condition of affairs along this line. I am confident that the united action of medical editors will do more good in this direction than any other method of attacking the question. In some quarters, spasmodic attempts at enforcing certain kinds of legislation against the evil have been made, but all have been singularly and uniformly unsuccessful.

In the discussion of this matter, I wish to refer to conditions and causes. I shall offer remedies and hope to have your assistance with other remedies to meet the condition and restore the "patient" to a normal state of health. By "patient" in this instance, of course, I mean the medical expert. And the diseased condition in which he finds himself is that lowly position to which he has sunk in the eyes of the bench, bar and public. Every murder trial sees another page written upon the disrepute of the medical expert. He is flaunted in the public prints as the comic *piece de resistance* of the trial. The cross-examination of these experts keeps the reportorial pencil busy, for the newspaper man views with almost fiendish glee the discomfiture of the expert under the lash of the cross-examiner. And in civil suits for damages, too, one sees often a hand-to-hand conflict of experts, each side fighting desperately, each contradicting the one and thus practically endeavoring to show that there are no known facts in medicine. Sometimes the battle is terminated with vic-

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tory for one side and confusion for the other, and vice versa. More often, however, there is a total disregard of the expert evidence offered by both sides and the jury decides the case on other points. Yet the same experts rush on to testify in other cases, callous, regardless of the lightness with which the previous jury received their testimony, indifferent and unabashed.

The customary method of their employment is largely responsible for the partisanship of most experts in giving testimony. Many experts are attracted to testify in a certain cause and along certain lines because they know that they would not be employed if their views were not in consonance with those of their employer, *i. e.*, the views that he wishes the jury to believe. They wittingly or unwittingly, as you please, bend their knowledge and their viewpoints to run parallel with the proposition to be proven, instead of having a presentment of the facts of the case before them, and giving their impartial opinion on this presentation, with the privilege on the part of the lawyer to accept or reject their particular expert views. Lawyers are keen to take advantage of this vacillating character of experts and often trap the unwary into committing themselves on a proposition, leading them gently along their own line of reasoning and finally binding them to the cause with fetters of gold by means of a munificent fee. The oft-repeated boast of lawyers that they can get experts to prove any proposition in medicine, whether it is true according to authority or not, provided there is enough money on hand to buy in said experts, is a living confirmation of this question. The partisan witness takes refuge behind the disputed and moot points in medicine to cover his shame, yet there are many points in medicine that have been scientifically proven, and when brought face to face with such questions, there is no extenuation for the biased medical expert. This method of employing experts is bad, for few there are who can resist the almost unconscious desire to have the side win that pays their hire. High-minded, indeed, is the individual who can give damaging evidence against the side that employs him, and the chances are that he would never again be employed as an expert by that particular lawyer; yet a fair reputation made in this way would certainly result in frequent employment when lawyers really wanted to present the truth in their respective cases at bar—occasions not as infrequent as one would imagine. There is no reason on earth why a medical man should for one moment allow another to dictate his opinion. The cultivation of a high standard of morals and the faculty of truth-telling seem to lie at the basis of reform of partisanship.

Another point that I wish to make here as calling for reform is the inadequate method of teaching legal medicine in our American medical schools. In but few colleges is this chair recognized as a most important part of the curriculum. In most instances, there is a so-called chair of medical jurisprudence, held by a member of the legal profession. This

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professor gives his students a series of lectures on the laws relating to the proper practice of medicine, paying attention to the rights of the patient and showing the legal responsibilities of the future practitioners to their clientele. This professor says little or nothing at all regarding the medical man as a court witness. On the contrary, he usually goes out of his way to avoid this question. Why? Either because he takes it for granted that the students learn all about this matter from some other teacher or because he, like most lawyers, is not at all disposed to alter the present system of medical expert testimony-giving.

The average lawyer when asked his views on the medical expert question, side-steps and refuses to be drawn into a discussion. In other words, a large number of legal gentlemen are seemingly content with the present method of getting physicians to testify as they (the lawyers) want them to testify, evidently fearing that an awakening of the medical professional conscience will deprive them of valuable allies when they have an untenable and ordinarily hopeless point to prove. While this view smacks somewhat of an accusation against the members of the bar at large, certainly their general attitude on this question warrants it.

There are but few schools in this country that attempt to give a proper course of legal medicine, a course which in first order would give instruction upon the *ethics* of medical expert testimony, where the students should be taught that the lessons that they have learned at the knees of their parents regarding truth-telling should be followed up when they take the stand before a tribunal of justice. They should be drilled in the course on legal medicine into believing that their opinion on a medical fact should be the same, whether given in their consultation chamber, in the sick chamber or in the court room.

Next, they should be taken over the ground on the proper performance of legal autopsies, the detection of poisons, the detection of blood stains and seminal stains by all the latest biological methods; the signs of drowning, matters relating to the still-born child, the crimes of feticide and infanticide, etc. This would properly constitute the technical side of the course and stands not less in importance to that part devoted to the training of the medical students in the ethics of their testimony.

Where can we find men of sufficient training to give such a course as I have outlined? They must be recruited from the ranks of those who have held official positions like autopsy physicians in coroners' offices of the land. While it is true that the average coroner's autopsy physician is often very poorly equipped in training to hold his position and do his work properly, still there is growing up here and there a class of competent men who manage to drift into these positions, even though they are purely political in method of appointment. While on this point, I can not refrain from criticising in no uncertain terms the customary coroner's office in an American municipality. In the first place, the coroner's office

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is an obsolete institution, handed down to us from our English settlers in America. It is not a court of record. Its proceedings are of but little importance and its officers are, as a rule, very incompetent to conduct the inquiries that are daily brought to their attention. The only officer of importance in the whole staff is the autopsy physician, and, under the present system, that office is so obscure and unknown that very few people really know what the duties of the office really are. Yet this officer builds the foundation for every homicide case in the land, and his autopsy records constitute the basis of many civil suits for damages. Improper or incompetent conduct of the duties of the autopsy physician means miscarriage of justice, perhaps the escape of the guilty or the punishment of the innocent.

There is, therefore, a great need to magnify the importance of this autopsy physician's office, either by removing it from politics or else by abolishment of the office of coroner and substituting therefore the office of, say, medical examiner, which combines the coroner and the autopsy physician into one officer, as was done in the Commonwealth of Massachusetts in 1877. Now the creation of some such office as this would furnish to the medical schools a splendid set of men who could become professors of legal medicine, amply qualified to teach the future generations of medical men something of their duties.

As Buist, writing in the *British Medical Journal* for January 11, 1908, says, "one of the most important needs in England for the encouragement of the study of legal medicine is more literature on this subject." As medical editors, this statement should appeal to all of you. There is a woeful scantiness of good literature upon legal medicine in England as well as in the United States. There is an abundance of legal medical literature in France and in Germany, because in those countries there are laws governing the competency of the occupants of medico-legal positions, and these men write up their cases and mooted points in most interesting fashion. Buist says, "it is amusing to hear lawyers talking of Taylor on Medical Jurisprudence with the same awe and veneration which the Christian shows for the Bible or the Mohammedan for the Koran. Only at the last assizes, in response to a quotation from this authority thrown at the witness during cross-examination, great wonderment was expressed at his daring to think that there was any other authority in legal medicine besides Taylor." I believe that this conception of the great value of Taylor's work as an authority of legal medicine is equally prevalent among the legal and medical men of this country, for is it not quoted in court in almost all cases, and is it not specified as the proper text-book for the medical student in most of the college catalogues? And yet, with due respect to Taylor, his book is far from what my idea is of what an up-to-date text-book on legal medicine should be.

There is a splendid opportunity for united efforts on the part of the medical press to improve these conditions. There should be repeated

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editorial mention of the points that I have endeavored to lay before you. There should be an encouragement of the writing of legal medical articles for publication in our journals. There should be translations made of the well-known European works on legal medicine, for instance, Lewin's, Brouardel, etc. In no other way can this be brought to the attention of the medical men so that they can see the light and follow it on to the awakening. Many medical men stoutly contend that a special course on legal medicine is not necessary to fit a competent practitioner to become a good medical witness; they maintain that if a man knows his obstetrics, his surgery, his practice of medicine, his therapeutics and his materia medica, he ought to be able to present his knowledge to a jury without any special instruction in legal medicine. Yet, as one great authority has stated, medical matters when exposed in the white glare of the court room exhibit a different view than when looked at in the mild light of the sick room. The giving of medical testimony in a court means a closer scrutiny of the facts of medicine. It means invariably a closer analysis, and, by virtue of this, the study of legal medicine should make better physicians of all of us than we now are.

The formation of medico-legal societies should be encouraged in all cities, for the purpose of improving the mutual acquaintanceship of medicine and law. If lawyers and physicians could come together at more frequent intervals as in medico-legal society gatherings, there would be a better understanding of the interdependence of one upon the other, and the ultimate effect would be excellent. There is too great a disposition on the part of the doctor to retire into his shell and view the lawyer with suspicious eyes when he is met with in court, fearsome that the lawyer's sole aim is to expose the ignorance of the doctor on some little point in medical literature upon which he has forgotten to fortify himself before taking the witness stand. And the lawyer often views the doctor with suspicion when they meet in court, fearing that the doctor is trying to confuse him and repel his examination by hurling an avalanche of technical terms under such circumstances. Such medico-legal societies would serve to destroy this unnatural and unnecessary enmity between two high-class professions. The medical press could be of material assistance in bringing about this result.

A movement is now on foot in New York City, indorsed by the Academy of Medicine and the Bar Association of the State, looking towards the enactment of a statute governing the employment of medical experts by the State in all civil suits for damages, with the end in view of doing away with partisanship in medical expert testimony. Such an enactment would certainly be of some service in mitigating this evil. Yet care must be taken lest this might not become too much entangled with politics. The root of the evil lies in insufficient education of the medical man. Educate him on his duties as a medical witness. Teach him, while he is a student,

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that he should testify truthfully in court, irrespective of who employs him, and the lessons he has learned as a student will not soon be forgotten. Medical editors can lead their medical brethren out of their benighted state by a broad policy of education. Let this education take the form already advised, repeated editorial writing, and the encouragement of the writing of legal medical literature in general.

That advancement in the teaching of legal medicine has not kept abreast with the progressive improvement in teaching other branches of medicine, clearly indicates that the medical profession is, as a body, totally unconscious of their ignorance of legal medicine, and so we see the pathetic spectacle of the medical expert offered as a humorous proposition to the public, yet no efforts are made by the interested but benighted profession to improve conditions. This very fact emphasizes the necessity for the medical press to take up the matter, and to urge its reform in no uncertain terms. There is, undoubtedly, a very small percentage of medical men who have ever seriously thought over this proposition. It is, therefore, incumbent upon the journalists to make *all* of them think it over, so that with concerted action some relief may be had. It is to the medical press that the profession looks for light on all points; let them not look in vain in this instance. And because they have *not* looked for this light from us, let us set such a beacon of truth on this point burning before their eyes that no longer will the honorable profession of medicine have cause to hang its head with shame when the subject of medical expert testimony is mentioned. Let the medical expert claim full measure of honor and respect in his line of work, just as every follower of every other branch of medicine and its practice can claim as his very own, by virtue of the traditions and inherent nobility of this profession of ours.

THE TREATMENT OF ACUTE DYSENTERY.

By Robert C. Kenner, A. M., M. D., Louisville, Ky.

[Written for the Medical Brief.]

Acute dysentery is not only a very common disease, but one attended with intense suffering. It also frequently becomes chronic, and the mortality following the disease is often very large. It is claimed that out of 288,000 cases of sickness, of all types, among the soldiers of the Union army in the civil war, one-fourth were dysentery. In Japan, in 1890, an epidemic of dysentery was attended with a mortality of nearly 20%. I could give numerous instances of great epidemics, and large percentages of deaths, but these are sufficient to show the disease to be one of extreme gravity.

Diet is an important consideration in the conduct of a case of acute dysentery. I am convinced that we often do harm by overfeeding. In

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fact, many patients are fed liberally who would do better without any food whatever. But it is the wise course to give these patients adequate food, avoiding the extremes of over- or under-feeding. Milk has been thought an ideal food, but this is by no means an unqualified fact. Taken in large quantities it produces curds that form a nidus for micro-organism, and, again, it often is followed by indigestion. Severe attacks of colic often follow large imbibitions of milk. Of course, solid foods are not to be allowed, but milk, in small quantities, and soft-boiled eggs, with predigested beef, and other prepared liquid foods, are of value, and can be used to the great benefit of the patient. Some able practitioners make it a rule never to give any food to any patient who is in good physical condition at the time he is attacked.

This is, probably, carrying the matter too far, but still it serves to show how that effect of overfeeding has impressed itself on the minds of practical physicians.

When there is much feebleness, irritable heart, or thread pulse, it is highly important that the patient be given stimulants. Of all stimulants intended to support the heart no one is comparable to alcohol. Whisky is preferable. The sweet wines are inadmissable in dysentery. Whisky, diluted with distilled water, is my favorite cardiac stimulant in dysentery. It should be given in accordance with the well-known principle of Jurgensen—the effect is to be produced, regardless of the quantity used, or the frequency of dosage. Injections into the bowel of a solution of alum, or nitrate of silver, and of other agents, have received the indorsement of some able men. But, on the other hand, the treatment of acute dysentery by irrigations and injections of large volumes of solutions of antiseptics, astringents, and like agents, has by no means found universal favor. Indeed, some of the best observers have pointed out the weak points in the treatment. Among these may be named Hearst, who shows that with irrigations it is impossible to reach all of the diseased area. But if we could reach all of the diseased area, I am still doubtful whether we could bring about a cure of the disease by local application. We all know that local applications fail utterly in many cases, and it can not be said the application of any agent we know is specifically antagonistic to the dysenteric process. My experience with irrigations and injections has been very unsatisfactory. They tend to increase the exhaustion of the patient, are carried out with difficulty in all cases, and with the poor, or those in moderate circumstances, it is almost impossible to employ them. I, therefore, have ceased altogether to employ irrigations and injections in the treatment of acute dysentery.

My first step in taking charge of a case of dysentery is to bring about an entire evacuation of the intestinal contents. In bringing about this most desirable end, there is no remedy equal to Epsom salts. I give this in doses of half an ounce every six hours until I secure a large, watery

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evacuation. Often one dose is sufficient. After this, I have the patient begin with subnitrate of bismuth and salol, thirty grains of the former and five of the latter, every four hours. I continue this for two or three days. Very often this is all that is necessary. Many cases go on to recovery, under this medication, in a few days.

In this connection, I must say that in the conduct of all these cases it is important to administer a dose of Epsom salts every other day. This removes exfoliations, fecal and septic matter, and is a highly important part of the treatment. If the bismuth and salol fail, after two or three days, to effect appreciably beneficial results, we should leave this off, and begin the administration of dilute sulphuric acid. This remedy has been used by Hare and many other able observers with great benefit. I have frequently used it in cases that would not yield to bismuth and salol, and have found it very beneficial. In one case I have now in mind, the patient, under bismuth and salol, failed to be benefited. I put him after the second day on dilute sulphuric acid, in doses of fifteen minims every four hours. Improvement was manifest in eight hours, and my patient made a speedy recovery. I have found this agent a most valuable and trustworthy one.

When these remedies fail, I resort to that remedy which has won the confidence of able and practical physicians everywhere. I refer to ipecac. This agent is capable of bringing about a cure when all other means have failed. Dr. Woodhull, formerly of the United States Army Medical Service, says, regarding ipecac, that its action in dysentery was as conspicuous as that of *quinine in malarial* affections. Truly, this is a strong statement, yet my personal observations, covering a period of twenty-five years, bears it out in the fullness. In fact, ipecac is as nearly a specific as can be found in all our therapeutics. In the treatment of dysentery it is important and necessary to administer ipecac in large doses. The patient should be deprived of all food or drink for at least six hours. Then he should be given an hypodermic injection of one-fourth grain of morphine. Shortly after this he should take thirty grains of pulverized ipecac. This can be taken in capsules or the powder, with just enough water to wash it down. The patient must lie as quietly as possible for several hours. Usually, there is no nausea, but if this occurs it can often be controlled by sinapisms applied to the epigastrium. After the lapse of twelve hours there is usually a large fecal evacuation that has but little of the characteristic mucosanguineous appearance. Often recovery is begun after the first dose; again, we have to repeat the dose in forty-eight hours. But the best results have followed the treatment, and I have come to rely upon this treatment with the utmost confidence.

Epsom salts is very offensive to the palate of many patients. I may say here, that syrup of raspberry will render this agent tasteless. This will enable the physician to give it many times when otherwise it could not be administered.

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A RETROSPECT OF THE PRINCIPAL AND MOST INTERESTING PAPERS AND DISCUSSIONS PRESENTED AT THE RECENT ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

(Written by our Special Correspondent.)

We wish to call the attention of our readers to a new departure which we inaugurate with this issue, namely, a reportorial essay, if you please, or retrospect of American Medical Society gatherings. We here publish a retrospect of the recent meeting of the American Medical Association at Chicago. The article aims to present to those of our readers who were not fortunate enough to attend this meeting a bird's-eye view of the principal papers and topics discussed at that time. The programme was carefully studied, and the papers which seemed to present the most interesting phases of medicine were carefully listened to, and an abstract in some instances, almost a verbatim report in others, taken down by our special correspondent at the meeting. While it is true that all of these papers will be published in their entirety in the journal of the association, it sometimes takes quite a while before these papers get into print in that publication. Our readers will thus have the benefit of an "advance copy" of these papers, presented in what we trust is a condensed and intelligible form.

The weekly medical papers usually attempt to make a society report of this kind, but monthly medical papers, as a rule, do not. We believe that the monthly medical journal can give a condensed report of the entire meeting, and keep its readers abreast of the times just as well as the weeklies. It is our aim to continue to make this a feature in the future, reporting all the principal national meetings in this way.

TECHNIQUE OF CRANIAL SURGERY.

One of the most interesting matters brought out at the association meeting was the "Symposium on the Technic of Cranial Surgery," presented at the surgical section. This was participated in by the three masters of cranial surgery in America, viz., Harvey Cushing, of Baltimore; Frank Hartley, of New York City, and C. H. Frazier, of Philadelphia. There was a lantern-slide demonstration with each paper, which enhanced the value of the papers considerably. Cushing spoke first of the administration of the anesthetic, deciding that the inhalation method was better than rectal anesthesia. The skull is shaved, and the patient put in the most comfortable position for the operator to work well. A protective sheet is tied around the head, after the lines of incision are scratched in the scalp. The sheet alluded to is tied around the head with tapes. Cushing then showed a picture of a special table for operating upon the base of the skull, which permits the patient to lie prone, with

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his shoulders resting upon an elevated rest above the table, head projecting beyond the table, forehead resting in a head-rest, supported upon a stand which is placed upon the floor in front of the table. Mention was here made of the author's method of *continuous auscultation* of the heart during the anesthesia, which gives the anesthetist a continual idea of how the circulation is behaving, instead of having to be guided by occasionally feeling the pulse, according to the ordinary method. It might be added that this continuous auscultation of the heart could well be practiced with all anesthetics, no matter what the operation may be.

Cushing then went on to describe his method of going into the head, using the trephine and the Gigli saw and drill. He also showed his method of closing the wound.

Mention was then made of the so-called "decompressive" operation for relieving intracranial tension. For early decompressive operations we are indebted to Jaboulin and Broca. The speaker called attention to a method of performing decompressive operations through the temporal muscle, first described by him in 1905. He advocated this operation for relieving intracranial tension in unlocalized tumors within the cranial cavity. This temporal decompressive operation occurs in the "silent area," and if there is any cerebral protrusion, it does not matter.

Cushing emphasized the point that in cases of internal hydrocephalus a decompressive operation does not do any good. He mentioned the fact that of the hundred or more decompressive operations that he had performed in the last three or four years for unlocalized cranial tumors, many of them are now coming back with their tumors localized. Paradoxical as it may seem, the best patient for operation in the field of cranial surgery is the one with unlocalized cranial tumor, upon whom the decompressive operation is performed, for later they come back with the preliminary symptoms relieved, but with well-localized symptoms indicating the exact situation of the tumor, which can then be intelligently dealt with and, perhaps, removed.

Cushing mentioned that there are some cases where the decompressive operations are good; for instance, in uremic states, as in one case reported by him. Secondly, they do good in cases of basal hemorrhage. He reported one case of basilar fracture, with paralysis of both sides of the face, which later cleared up.

A most important point brought out by Cushing was in regard to the performance of lumbar puncture in cases of cranial increased tension: There is great danger in performing lumbar puncture in cases of brain tumor which lie below the tentorium. In these cases you will find that there is somewhat of a "hernia" of the brain matter pushed through the foramen magnum, and if you do a puncture into the spinal column, with the outflow of serous fluid, there is an immediate ramming down of the edges of the cerebellum into the foramen magnum, pinching of the cere-

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bellum by the edges of the foramen, and fatal issue. It is in the nature of things the production of a local anemia of the cerebellar tissue which is thus pinched, followed, of course, by death.

Frank Hartley, of New York, then showed his method of operating upon the skull. He uses an electric motor for drilling. This motor is so made that it can be taken apart for sterilization. He laid stress upon the necessity of a knowledge of the topography of the head, and said that in operating the flaps should be made with some definite purpose. He showed the various flaps and "bone windows" for going into the head, with preservation of the bony flap, which is left adherent to the scalp. In cases of extensive fracture of the skull, with comminution of bone, he showed a method of putting in an artificial bony flap by means of a piece of celluloid, with perforations through all parts. Hartley makes his windows in the skull by drilling six holes in a square, or rectangular fashion, connecting them with a saw-incision. The flap is then raised with a Macuen osteoclast.

C. H. Frazier, of Philadelphia, contributed the last chapter upon the technic of cranial surgery. He showed a very good table for operating upon these cases. He went over his individual technic, which differed in some minor particulars from that of Cushing and Hartley. The ultimate results of all three operators seemed to be equally good in these cases. The field of cranial surgery has certainly been thoroughly worked out by these operators and their followers. There is now no longer that feeling of hopelessness on the part of surgeons when they are brought face to face with the subject of intracranial new growths and basilar fractures, as was the case not so many years ago.

ARTIFICIAL RESPIRATION.

Another paper read before the surgical section was that by Edward A. Schäfer, of Edinburgh, Scotland, on "Artificial Respiration in Its Physiological Aspects." He reviewed the various methods of performing artificial respiration. He said that, as a result of experiments upon dogs, he proved that the pressure method is the best for performing artificial respiration, with the subject in the prone position, lying upon his belly, with pressure applied vertically over the ribs. Pressure upon the abdominal walls forces the viscera against the diaphragm, which is forced upwards, driving the air out of the lungs. On relaxation, the elasticity of the lungs causes them to distend naturally. Pressure should be performed gradually and slowly, each pressure lasting about three seconds. Then it can be worked up to lasting but two seconds. Schäfer calls this method the "prone-pressure" method. During actual working, it should be performed twelve times per minute. The operator squats down alongside the patient, who lies face downwards upon the floor. Place the hands along

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the ribs and swing the body forward and backward. In this way hardly any muscular exertion is required.

The efficiency of the pressure method of artificial respiration depends upon the fact that after *ordinary* expiration, the thorax still contains 1,500 c.c. of air, which can be expelled by *forcible* expiration. It also contains 1,000 c.c. of air which *can not* be expelled. This is called the "tidal," or residual air. It can be expelled by artificial respiration. More than this amount can be expelled when the pressure is applied in the prone position, and by alternate relaxation you can get an air exchange of six liters, which is more than the average normal amount per minute required.

It is somewhat curious to hear that up to the time of Schäfer's experiments but little was definitely known as to the actual amount of air that could be expelled from the lungs with use of the various methods of artificial respiration. In other words, methods were used without any mathematical calculation of just what good they were doing, *i. e.*, just how much air, measured accurately, could be pushed out of the lungs with the sundry methods. In order to determine this point, Schäfer undertook to measure the air content of the lungs by means of a kind of spirometer. By means of this instrument he showed, for instance, the air displacement in the lungs with all the artificial respiration methods, arriving at the statement of facts that the prone-pressure method displaced a great deal more than the Sylvester or the Marshall Hall methods, which are so commonly used. The prone-pressure method is the best because it is the most efficient, because it can be performed without effort, even by a woman or by a child. It is also very simple and easily learned. It allows the tongue to fall forward, with the escape of mucus, water, saliva, etc., from the mouth. Its field of usefulness is not only for the resuscitation of drowned persons, but also for those suffering from overdosing with chloroform or ether. There is great danger of patients succumbing to chloroform because of its influence upon the vagus, which danger can be obviated by a preliminary injection of atropine, which also is a good measure, because it prevents the excessive flow of saliva.

Schäfer showed, also, if you keep the mouth closed and introduce a tube into one nostril, behind which you have a bellows, that the lungs can be distended with air by this bellows-arrangement.

Schäfer showed that with the use of his prone-pressure method of artificial respiration it is not even necessary to remove the clothing, corsets, etc., of persons overcome by drowning. You can proceed with the pressure with all the clothes on the person.

POSITIVE VERSUS NEGATIVE PRESSURE IN OPERATIONS UPON THE CHEST.

The next discussion before the surgical section was upon the best method of performing thoracotomy, whether the operation with positive pressure was the better or whether that with negative pressure surpassed

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it. Dr. F. Sauerbruch, of Marburg, Germany, spoke of the present status of surgery of the thoracic cavity, and showed his method of preventing pneumothorax by means of a negative-pressure contrivance. He discussed the development of the use of his pneumatic cabinet in intrathoracic operations, and pointed out the fact that it minimizes the danger of such operations, lessens the frequency of the occurrence of complications, and favors healing. Operations formerly looked upon as impossible can now be performed with every assurance of a successful issue. He showed this cabinet, which is simply a small operating room, with the patient's head outside, the body and operator inside. He bases his technic upon the difference that exists between the pressure in the bronchial tube and that upon the outside of the lungs. When the normal relationship between these two is disturbed, then you have trouble. He elaborated his technic by placing dogs in glass cylinders, with the head projecting through one end and the legs through the other. Placing his hands inside the cylinder, he found he could open the thorax without any trouble or disturbance to breathing. For practical purposes, he devised the rarefied air chamber just alluded to for performing these chest operations. Under this negative pressure the thorax may be opened, and the lungs will be found approaching the edges of the wound, instead of receding and retracting, as you see it in the ordinary thoracotomy. This also prevents the aspiration of foreign material into the remote parts of the lungs, pus, etc. Sometimes this forcing of pus and foreign material into the ultimate parts of the lung, before the days of operating under negative pressure, resulted in serious complications and death. Another indication for operation upon the lung is where we have a tumor involving but one lobe. Primary carcinoma of the lung is rare, said Sauerbruch. He has operated upon but one case of this kind. In that case he made a resection of the lung.

This method of operating under negative pressure is used by Sauerbruch in operations upon the œsophagus, as well as upon the lungs. In cases of deep-seated carcinoma of the cardia, resection of the costal arch is recommended by Myer, of New York.

Sauerbruch then referred to the advisability of performing more exploratory thoracotomies. He said that failure to make enough exploratory thoracotomies is responsible for many errors in diagnosis. He pointed to the great advances in diagnosis and surgery of the abdomen by means of frequent exploratory laparotomies, and said that equal progress could be made in surgery of the chest with more exploratory thoracotomies.

The "positive pressure" school of operating upon the thorax was then ably represented in the paper read by Samuel Robinson, of Boston, who spoke upon "Artificial Intrapulmonary Positive Pressure, Experimental Application in Surgery of the Lung." He said, first, that the negative-

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pressure method of Sauerbruch, with the employment of a special operating chamber, etc., was too expensive and too cumbersome to be used where the scene of operation had to be shifted from place to place. His method of positive-pressure operating is to blow compressed air into the lungs through the mouth, but this must be done gently. It has been said that all of the positive-pressure methods lead to dangerous results, because of bad effect upon the circulation. Yet experimental work upon dogs, with the thoracic cavity open, with exact estimation of blood pressure, showed no changes. The pulmonary pressure showed no change. In the presence of open wounds of the chest, with air compression there is no change in the blood pressure. This seemed to dissipate this erroneous idea. He spoke particularly of one experiment, where oxygen was introduced through a thoracotomy wound by means of a catheter, with both thoracic cavities open, and the animal was kept alive over one hour. This has, likewise, been proven by simply allowing air to enter through the catheter, with both sides of the chest open, with no bad results. He said that the results obtained by experimental work, and by actual operations upon the human subject, with positive pressure, showed that circulatory disturbances do not occur, and neither does embolism. When vomiting occurs, there is a chest mask for application to the chest.

He advocated the use of rectal anesthesia in operating upon these cases.

Samuel Robinson, of Boston, then gave another paper on the positive-pressure method of operating in intrapulmonary surgery. He said the difficulties of operating in this region may be laid at the door of a rigid operating wall (the chest), and the deep-seated position of the viscera. He expressed the opinion that better results are obtained upon the human subject during the course of actual operations than are obtained in experimental surgery upon dogs. He claimed that it is a mistake to believe that dogs are less susceptible to infection than man.

He called attention to Janeway's explanation of the occurrence so frequently of infection after operations upon the œsophagus as due to seepage or leakage from suction, in negative-pressure operations. He then discussed the prime indications for operations upon the œsophagus, which are stricture of the œsophagus, carcinoma of the lower end of the œsophagus, diverticula of the œsophagus, and foreign bodies in the œsophagus. A special operation has been devised by Green for suturing the divided ends of the œsophagus after operation, something like the Murphy button. Ether is always used in these operations. The ether vapor is always warmed before entering the mouth. The speaker said that he always went through the eighth costal space, opening the diaghragm from above, pulling the cardiac end of the stomach through the diaphragmatic opening, after which the operation is performed and the button applied.

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THE SUTURING OF BLOOD VESSELS.

An important discussion before the surgical section was the work of Alexis Carrel, of New York, and C. C. Guthrie, of St. Louis, upon blood-vessel surgery. They showed that the substitution of a segment of artery or vein for fresh arterial or venous segment taken from another animal is successful. When a segment of a vein is shifted into an artery, the vein readily adapts itself to its new arterial function. A cat, whose segment of vena cava was grafted onto the abdominal aorta, lived for nine months, during which time its circulation was, apparently, normal. If a segment of an artery or vein from man or dog is transplanted into a dog or cat, the result will be excellent. They showed the possibility of utilizing this experimental work in practical surgery by keeping vessels removed from living animals or fresh cadavers, and keeping them for several weeks in sterile, sealed tubes, at a temperature slightly above freezing. They demonstrated that a spleen has been successfully removed and transplanted into another animal. A thigh can be taken from a fresh cadaver and substituted for the thigh of another dog. Dr. Carrel recently attracted attention by connecting the blood vessels in the arm of Dr. Adrian Lambert, of Columbia University, to the leg of his infant daughter, and by induced circulation of healthy blood enabled her to recover from a supposedly-fatal hemorrhage.

A NEED FOR MORE THOROUGH STUDY OF MENTAL THERAPY.

Dr. Oliver Osborne, of New Haven, Conn., urged that a part of the training of the ministers of the gospel should be a study of medicine. He criticized the extremes to which the adherents of mental healing have carried their claims. He said, in his paper before the section of pharmacology, "every minister should be given a course in pathology before being given charge of the care of training of the human mind. We all of us approve, to an extent, the theory of the influence of the mind over disease. Psycho-therapeutic instruction should be a part of the course of study of every medical school. The administration of drugs now forms but a small part of the treatment of disease. But I do believe it is time to refute the theory that Nature is a good physician, and that everything should be left to her care. We must assist Nature."

GERMS CARRIED BY THE HEALTHY.

Dr. Myer S. Cohen, of Philadelphia, in his address before the section of hygiene, said that diphtheria germs are distributed widely by apparently healthy people, and that this disease will always remain common as long as these healthy "carriers" are allowed to mingle with other persons. He cited many instances to prove this assertion. He recommended the clinical examination of all exposed to diphtheria, and their isolation until it is

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made certain that they are no longer carrying the Klebs-Loeffler bacilli around with them. He said, among other things, "reliance is placed by both the public and the profession upon the precautions adopted by the health department, whether efficient and sufficient or insufficient. Consequently, a false sense of security is often imparted. Of no disease is this so true as of diphtheria. When, after recovery from this disease, the sanitary officials disinfect a house and remove the placard, all danger of infection is believed to be at an end. That articles infected by diphtheria patients may transmit the disease to others, all seem to recognize."

THE CANCER PROBLEM.

Dr. George W. Crile, of Cleveland, before the surgical section, gave strong basis for the hope that cancer may be cured. Tests are being made which contemplate the forming of a group of "human cancer immunes," whose blood, transfused into the veins of sufferers from the disease, will work a cure as effective as that of antitoxin for diphtheria. Methods by which transplanted sarcoma in dogs have been cured were described by Crile. The cured animals became immune, and were successfully employed for curing other dogs and rendered them immune. Six human subjects, upon whom Crile has been working with this method, are showing some favorable symptoms of improvement. Sixteen months have now elapsed since the first case was put under this treatment. We can use these cases as an argument upon which to form a final judgment. Should they be cured and become immune, it is probable that they will become available for curing others, so that eventually a group of human immunes may be established. The whole matter of immunizing against cancer is at this time still in an experimental stage, and the statements made by Crile must be taken accordingly. Immunity in dogs was produced by the growth of a transplanted tumor. Its complete disappearance under treatment followed. The speaker estimated that there were 80,000 cases of cancer in the United States. There are possibly 1,000,000 cases in the world. According to statistics, one woman in eight who reaches her thirty-fifth year becomes the victim and dies of cancer. When operated upon, according to the highest standards of surgery of the present day, the favorable group of cases show a three-year cure in approximately 80% of cases. Dr. Rudolph Matas, chairman of the surgical section, characterized Dr. Crile's address as a "message of hope to the world."

FOREST SCHOOL A CONSUMPTION CURE.

Dr. Alexander McAllister, of Camden, N. J., in an address before the section on pediatrics, advocated forest schools for tubercular children, like the famous Waldschule of the Germans, and open-air life, where Nature has made the air purest. He would go to the extreme in his treatment of this disease. Live discussion followed his paper, but he

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would not recede from his position. School life under the trees, preferably without roof or tent, comfortable seats and desks, if necessary, but nothing to keep the breezes from the pallid cheeks of city children, was the radical reform in education proposed. With this scheme in operation, the speaker thought the disease could be stamped out. Sunshine and fresh air were the only medicines necessary. This municipally-supported public school proposed by McAllister would take children from their homes as soon as the springtime weather came. He would keep them in the fresh air of the country twenty-four hours of the day. Books and slates would not be thrown aside. Not only would the pupils be benefited, but also the teachers, who are often equally in need of fresh-air treatment for tuberculosis. Teachers, broken down in the school room by drudgery and unsanitary conditions following poor ventilation, would find it a boon to their health. The speaker said that he did not believe the scheme would be adopted without bitter opposition, but that it is the only salvation of the nation. Fully 150,000 persons die every year in the United States of tuberculosis. It has been shown that consumption appears in the incipient or prephysical stage in children between the ages of one and five years. This stage may not develop into a full-blown case until adult years begin. Children born in a family with a tubercular history ought to be given the benefit of a forest school education. Dr. McAllister showed that it is practically impossible to give the open-air treatment at home. Houses are not constructed for the giving of open-air treatment. The average sleeping room is merely a bed room, with windows for ventilation. The fresh air must necessarily be cold air. To dress and undress in this cold air is dangerous, and produces diseases which militate in favor of tuberculosis rather than aid in the fight against it.

THE THYROID AND THE PARA-THYROID BODIES.

Dr. Herman Tuholske, of St. Louis, discussed the surgery of the thyroid and the para-thyroid bodies before the surgical section. He said that there is a belief that these bodies are essential to life. There is a claim that these bodies differ from each other anatomically, embryologically and histologically. Death follows removal of the para-thyroid bodies in cats, but this death can be prevented by feeding them beef para-thyroids. There are usually four para-thyroids in man. The speaker carefully reviewed the literature upon this subject. The original part of the paper was the plan of operation proposed: to ligate the thyroid veins, in order to produce increased pressure, along the line of the "stauungshyperemie" of Bier. This increased blood pressure means transudation of plasma within and without the body of the para-thyroid. This crowds the cells together, and the so-called "vagrant cells," which are harmful and the least fit to live, die. This, then, lessens the size of the gland.

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In the discussion of this paper, Dr. Chas. Mayo, of Rochester, Minn., said that we are now learning more and more about these bodies. We must consider that all these glands, the thyroid, the para-thyroid, the thymus, and even the pineal gland, have definite functions. The para-thyroid bodies seem to have a function of their own in controlling the equilibrium of the nervous system. Mayo said that he had removed many para-thyroid glands without any trouble following. He called attention to the fact that disorders connected with these bodies have been considered by every specialist in medicine as their very own. For instance, the neurologist considered them nervous diseases, and treated them by rest. The enterologist considered them stomach diseases, on account of the diarrhea, putting them on a light diet, etc. And so on down the line. This dispute is all because of the absence of eye-symptoms in these cases. When the eye-symptoms appear, they all say, "Oh, well, I could have made a diagnosis had the eye-symptoms been present." Mayo recommended the gradual ligation of the arteries of the thyroid gland. In his own operations there were 94% improvements. He emphasized the fact that many of these cases are treated so long by the internal medical men that the surgical fraternity has to shoulder the high mortality, whereas it should go to the medical side.

TUBERCULOSIS OF THE FEMALE GENITALIA.

One of the most striking utterances heard at any section meeting of the association was the statement of Professor A. Martin, of Berlin, before the section on obstetrics and gynecology, that 24% of all cases of pyosalpinx are tubercular, proven by laboratory methods. He emphasized the importance of carefully scrutinizing all tissues, etc., removed during tubal operations, all uterine scrapings, in fact, for he maintained that many cases are erroneously diagnosed for something else, when, in reality, they are cases of tuberculosis. He called attention to the importance of closely examining all pus tubes for tubercles and tubercle bacilli.

MALIGNANT GROWTHS DEVELOPING IN OPERATION WOUNDS.

Dr. I. S. Stone, of Washington, D. C., read an interesting paper under this caption. He said that surgical wounds are sometimes infected by carcinoma because of lowered resistance. He said that the recurrence of cancer in a cicatrix after vaginal hysterectomy is due either to incomplete operation or immediate return in the incision from direct infection. In certain cases recurrence is first seen in suture tracts, while in others both tuberculosis and cancer may develop in the abdominal incision before secondary union of wound surfaces has been accomplished. He emphasized the importance of taking every precaution to prevent immediate infection in all operations for malignant disease. All sloughing

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surfaces should be cauterized before subjecting the patient to radical operation. If breast or pelvic glands are found in the stage of softening, they would better be allowed to remain than to open and spread their contents over adjoining raw surfaces.

Dr. Holt, in the discussion of this paper, made an important statement that while there are so many cases of implantation of cancer material upon the patient himself, yet there are never any cases of implantation upon the surgeon operating, which makes it appear as if there were some predisposition on the part of the patient to his own cancer. Another speaker spoke of the use of electro-thermic instruments, thoroughly cauterizing all raw surfaces, incising through the vagina with a cautery knife, clamping the broad ligaments with electro-thermic instruments, leaving no raw surfaces.

Dr. Gellhorn, of St. Louis, spoke of thirty-nine cases which he reported in 1896 from Mackenrodt's clinic, where the cautery method was used, with only four recurrences, and these recurrences occurred in other parts of the body, not in the operation wound or adjacent structures.

Another speaker said that we must operate upon these cases under the assumption that this is a germ disease. He claimed that the practice of certain surgeons of milking the breast during operations for cancer is responsible for the spreading of the infection. This statement was flatly contradicted by the next speaker, who said that no surgeon worthy of the name ever milked a breast during this operation; that the operation should be performed by working down from the axillary region, and not upwards. He also said that the retraction of the abdominal wound edges by metallic retractors starts an irritation, with cellular infiltration, predisposing to cancer transplantation. In order to obviate this, after the operation proper is finished, he takes a new set of instruments, freshens up the edges of the wound, and thus tries to prevent this transplantation.

ANATOMIC, PHYSIOLOGIC AND PATHOLOGICAL RELATIONSHIPS OF THE UTERUS AND STOMACH.

F. J. Taussig, of St. Louis, discussed the relationship that is generally supposed to exist between the uterus and the stomach. He spoke of the lack of positive anatomic and physiologic knowledge concerning the connection in the nervous supply of these two organs. He said that the stomach and uterus can both be cut off from the central nervous system without affecting their functions. They functionate through the sympathetic nervous system. He spoke of the gastric symptoms met with in menstruation. They are not always present. Sometimes during menstruation there is a loss of appetite and change in the blood-pressure. Gastric analyses of fourteen cases by Elmer showed increase in acidity just before menstruation. In general, data are very meager along this

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line. This is principally due to the fact that patients will not submit to gastric analysis unless their symptoms are very severe. Another important cause for the lack of exact scientific knowledge is the fact that even gastric analytical work is not absolutely correct. Gastric disturbances at the time of menstruation may be explained by nervous disturbances as well.

Among the pathological conditions of the uterus which are associated with gastric disturbances, may be mentioned, in first order, retroversio uteri. In sixty-five cases of retroversion, in which gastric analyses have been made, there has been found diminished hydrochloric acid. Taussig reported one case where the gastric symptoms were not relieved by operating for the correction of the retroversion. Some of these gastric symptoms occur in women who have a general gastroptosis.

The most important point in connection with this matter is whether we should classify these cases as reflex neuroses. Hyperemesis gravidarum is usually considered toxic in nature. In order to be looked upon as valid and true neuroses, they must fulfill the following postulates of a true neurosis: (1) There must be demonstrated a nerve error; (2) with abatement of the source of irritation there must be a disappearance of the reflex symptoms; (3) the organ in which the reflex symptoms appear should not previously be diseased; (4) the two organs that are reflexly affecting each other must not be affected by the same disease. Excluding cases of gastroptosis, cases of anemia, cases of hysteria or neurasthenia, or general neurotic temperament, finally cases of toxemia, what is there left to call reflex neurosis? Anatomists and physiologists must tell us more about the sympathetic system. Until that time arrives, we can not be too positive about calling conditions true reflex neuroses. And we should be very careful about advising operation for the relief of these nervous conditions.

COMPENSATORY DIARRHEA.

Heinrich Stern gave an elaborate explanation of the physiological chemistry and pathology of the so-called compensatory diarrheas. He said that the literature covering compensatory or "vicarious" diarrhea is very meager. The literature calls attention, practically, to but one form of compensatory diarrhea, namely, the uremic. Compensatory diarrhea is always symptomatic of some perversion of the cutaneous, pulmonary or intestinal secretions. It must be borne in mind that when met with it is always of a salutary nature, and that it does good. It may relieve intra-abdominal tension and do good in that way. There is an unloading of a flood of non-katabolic products, which are normally excreted by other emunctories. This includes the diarrheal excretions of normal and abnormal tissue metamorphoses. Compensatory diarrhea is always a functional disturbance, but the products excreted by it may actually produce

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intestinal lesions. Therefore, we often encounter in the intestines anatomical changes not a cause, but a consequence of intestinal over-activity.

Stern recognizes three types of compensatory diarrhea: (1) Diarrheas connected with katabolic processes (as in Addison's disease, diabetes, etc.); (2) diarrheas from diseases of excretory organs, and (3) diarrheas in functional decline of organs. The clinical symptoms of compensatory diarrhea show pain, tenesmus. Sometimes the increased functional activity of Addison's disease is shown by activity of the intestine in the form of diarrhea, sometimes in over-activity of the sweat glands of the skin. Sometimes this alternates with diarrhea. In Addison's disease there are two forms of diarrhea, one occurring at the end of the disease, due to changes in the solitary follicles of the intestine, the other form appearing early in the disease, which is compensatory diarrhea.

Diarrhea is frequent in diabetes. It may be symptomatic of a pathological state underlying the disease, or it may be compensatory. Diarrhea, as a symptom of diabetes, may be due to alimentary insufficiency, or it may be of katabolic nature. If so, it takes its origin in the small intestine, and during its existence the intensity of the glycosuria may be diminished. The occurrence of sugar in the feces is of significance. The speaker said that he did not wish to leave the impression that the finding of sugar is always met with in diabetic feces in cases of compensatory diarrhea in this condition. He has observed that when diarrhea sets in in diabetes there is lessening in the coma.

Compensatory diarrhea is met with sometimes in extensive burns of the surface of the body, where there are also auto-toxic symptoms, coma, etc. He said, also, that uremic stools do not always present the same characteristics, they may be ammoniacal or not. They may be mushy, slimy or watery. They sometimes exhibit mucus or blood. These cases of diarrhea occur more in chronic nephritis than in the acute form. He mentioned the fact that uremic vomiting performs the same function as uremic diarrhea.

He mentioned the occurrence of compensatory diarrhea in women at the time of the menopause. Following the cessation of the menses there is an osmosis through the intestinal walls. The intestines must take on the work of the skin which is failing in old age. The intestinal canal is one part of the human organism that takes on the work of other parts of the body that are negligent in their functions.

ABNORMAL SECRETION FROM MAMMARY GLANDS IN NON-PREGNANT WOMEN.

George Gellhorn, of St. Louis, contributed an interesting paper before the section on obstetrics and diseases of women on this subject. He said that pregnancy produces conditions in the fetus as well as in the mother's mammary glands. The activity of the glands may remain dormant until called forth by some other means. The speaker said that Blum reported

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a case of a third mammary gland situated in the region of the pubes, with seven nipples, secreting milk, but the two normal glands did not. He mentioned the case of a girl of eight years who suckled her infant brother. This has been corroborated by the observations of animal breeders. We know that the normal physiological stimulus of lactation is pregnancy. The normal period of lactation in women is usually one year, but it varies within wide limits. It is considered abnormal if the lactation lasts longer than two years. We often find an unnatural prolongation of lactation in some cases. The speaker said that, in his travels through the Orient, he had seen in Siam boys of six years running back from play to nurse at their mothers' breasts. It is also a popular error that lactation prolonged means prevention of conception, and you find some women attempting to prolong it for that reason. There are also interesting cases of secretion of milk in women near the climacteric. Billroth reported a woman of fifty-nine years who nursed her grandchild. The appearance of milk in the senile breast may be due to hypertrophy.

There is scant mention in the literature of medicine upon the appearance of milk in the female breast in cases of fibroid of the uterus. The removal of both ovaries does not interfere with lactation. This fact has been taken advantage of by animal breeders. Cows that are castrated give more milk than other cows. This is explained by the fact that the mammary glands are controlled by the ovaries, and, when the ovaries are removed there is no longer an exercise over the inhibitory function of the breasts. The same is said of pregnancy, *i. e.*, that the placenta inhibits the flow of milk, and that when the placenta is passed out, this inhibition stops and lactation sets in fully. Lacteal secretion may occur in the newborn, in the growing child, in the adult, and in old women. It may be associated with pathological states in the genital sphere.

Aside from scientific interest, there is considerable importance to the knowledge of this subject from the standpoint of the expert in legal medical lore. It should be borne in mind by him.

THE FIRST THERMOMETER.

According to the Abbé Nollett, the first thermometer was invented by a peasant named Drebbel, of North Holland. Drebbel's thermometer was composed of a vertical glass tube, ending at the top in a bulb, while the lower end was plunged in a vessel filled with water, or some colored fluid. When the bulb warmed the expanded air within it drove back the water. When the air cooled again the external pressure caused the liquid to rise again in the tube. The members of the Accademia del Cimento soon substituted for this hardly practical apparatus the more convenient instrument we still use.—*Health.*

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HAWAII FOR THE CLIMATIC AND SANATORIUM TREATMENT OF CONSUMPTION.

By E. S. Goodhue, M. D.,

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In the days not too long ago to be termed recent, when pulmonary tuberculosis was considered an incurable disease, there was little need, it seemed, of any State or municipal provision except for advanced cases of phthisis among the very poor.

The existing hospitals served well enough as the last retreat of the homeless and hopeless patient.

At this time, or a little earlier, Koch had not made his wonderful discovery, and those suffering from consumption were not considered a source of danger to others, but lived and moved, and finally died, among their kind without regard to the spread of a disease they did not recognize as infectious.

But with a consistent devotion to their profession, and a love for research which has characterized medical men since the days of Hippocrates, Bayle in 1810, and Laennec later, described the anatomical changes induced by tuberculosis of the lungs, and classed as "specific" of tuberculosis the peculiar tissue alteration which Virchow has termed caseation.

Wagner, Schüppel, Langhans and others, dwelt on the tubercle, but no great advance was made until about the close of our Civil War, when Villemin found that tuberculosis could be induced in healthy animals by inoculating them with tuberculous and cheesy products.

Then followed valuable experiments in inoculation by Gerlach, Bollinger, Aufrecht, Chaveau, Leissering, Parrot, Puech, and many more. Here was certainly a bright spot from their searchlight thrown upon the wide background of investigation, and it was soon after Klebs, Cohnheim and Fraenkel had declared tuberculosis to be a "specific, infectious disease," that Koch discovered the bacillus which has made him famous.

What a leap he took, this indefatigable student, alone at first, then followed by a few of the more advanced, until he had gathered the whole profession about him!

It was hard work to get rid of the "hereditary" theory, of "scrofula," and the inheritances of tuberculosis.

And we are only now shedding the molts termed diathesis and scrofulosis.

But all this advance in science, great as it was, did not offer any encouragement to the individual who had consumption; he knew what caused it, to be sure, but he also knew that, according to the knowledge of

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the time, he was doomed to die as other consumptives were dying around him.

This ubiquitous and invincible disease was incurable—a fatal process ending sooner or later in death; coming to rich and poor, impartial alike to both.

But with the discovery of 1881 came measures towards safeguarding the well. While those with the hereditary or scrofulous diathesis were regarded by the medical profession much as non-elect and non-predestined sinners were looked upon by their religious teachers, that is, doomed to certain destruction in the end, yet they were not treated as without hope, and their escape was made possible by the beneficence of nature.

It would take too much time to relate the whole fascinating story of the progress made in our knowledge of the etiology, pathology and treatment of consumption since it was discovered to be infectious. Besides, we are all familiar with it, and some of it is fresh within the memory of the youngest of us.

It is true, too, that while this investigation, discovery and advance were confined to a small group of workers in the profession, the mass of medical men were not only uninformed, but remained unconcerned, regarding the conclusions reached by their more enthusiastic fellows. And today, in the light of all the past, with our graphic demonstrations of the insatiable advance of the foe which our dear Holmes has so aptly termed the Great White Plague; knowing that each year 150,000 persons in the United States die of tuberculosis; that one-seventh of the population are sacrificed at their best period of life to the insidious disease; that at the present death rate 10,000,000 of those now alive will die of its ravages; knowing now that what we thought was incurable is easily cured, and having before us the simple means of preventing its advance into new territory, and of eliminating it from fields it has already entered; knowing all this, I say, we are yet forced to organize societies with the object of warning the masses; of stirring up our own membership to the need of some sort of action.

A distinguished New York physician said the other day that the difficult part of our campaign work was to rouse medical men to the importance of agitation and education.

This may seem incredible, but it is true, as I have reason to know. Yet whatever criticism may be offered as necessary, we can no longer sound a dolorous note; no present situation calls for despair, and to the thousands of sick we may conscientiously offer a cheering hope.

And this assurance is based on the most conservative investigations of scientific men—on the tried tests of human laboratories.

Dr. Thomas, of Chicago, voices the opinion of all other authorities on the subject when he says that incipient tuberculosis is one of the most easily cured of diseases, and that sanatorium methods result in from 65%

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to 95% of early cases of phthisis being dropped from the records as absolutely cured.

Dr. T. Mitchell Prudden says:*

"And so today the outlook for those in the earlier stages of this disease is, in a considerable proportion of cases, extremely encouraging. It is no longer for us the hopeless malady which it was earlier believed to be. It is not necessarily a bitter, losing fight upon which one enters who becomes aware that the finger of disease is upon him. A long and happy and useful life may still be his if the conditions which favor his cure be early and intelligently fixed upon, and patiently and faithfully persisted in."

Such results are secured largely, if not entirely, by natural methods, without the use of disagreeable drugs and annoying lines of treatment, which, to delicate persons, are such a burden.

We must have *rest, food, air.*

God's free sunshine for as much of the time as possible, nutritious and palatable food, cheerful thoughts and company, pure air and vistas of natural scenery which inspire the mind and uplift the soul.

Could any one ask for better medicine?

Observations show that a large proportion of our population has, at some period of life, had tuberculosis, and recovered, and we all know of individuals who, hastening to their end in some city, or at some particular employment, have saved themselves by forsaking the city or their employment, and turning out to pasture like a tired-out horse. But the price of restoration is absolute surrender to the object in view. Half-hearted service will be as futile as it was in the case of the young man of wealth who came to Jesus and asked what he should do to be saved: "Sell all that thou hast, and distribute to the poor, and come and follow me."

Faith and consecration there must be.

This hope is something to be enthusiastic over, and it is the duty of every physician to extend it by every legitimate means. Surely no small jealousy or mean desire for the first place should be allowed to disturb full co-operation in every locality.

If some of our brethren like glory, let them have it; if, by hoisting themselves they help the general cause along.

SANATORIA.

There are a great many sanatoria and hospitals for the care and treatment of those who have contracted tuberculosis; some of them maintained by private enterprise, others by municipal control; others still are under the supervision of the State or Federal Government. They are all successful. Every one, without an exception, issues a cheering report, even those located in climates we call unfavorable.

* Handbook on the Prevention of Tuberculosis.

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But there are still States and territories where no special provision has been made, even for the indigent afflicted with tuberculosis, though, indeed, most of our States are waking up to the need; stirred by the wonderful revival now going on all over the world, and by the appeals of State and territorial boards of health to their legislatures for special appropriations.

The following recommendation by the Tuberculosis Commission of Maryland, 1906, sounds the keynote of them all:

"The Commission * * * regards as immediately urgent the erection of a State sanatorium for the treatment of incipient tuberculosis. * * * Every civilized community recognizes that it is the duty of the Government to protect its citizens from communicable diseases that have proven to be a menace to public health and to the safety of the individual. * * * Left alone * * * deprived of the aid so readily bestowed upon other sick, and thrown upon their own scant resources, these poor sufferers go to crowd the ever-congested almshouses, or else they die in their own homes amid indescribable surroundings, forming, until the day they breathe their last, additional foci for the spread of the dreaded disease."

Several States, like Massachusetts and New York, have established sanatoria and other preventive and curative measures, and in these the mortality from tuberculosis has steadily decreased. But even where lack of interest on the part of health officers or want of public spirit in legislatures have delayed special provision, better methods of diagnosis and registration show a great advance in the disease at home, and a very great increase in such places as Singapore and Ceylon.

HAWAII.

Little attention was paid to pulmonary tuberculosis during the monarchy, or, indeed, until 1898, when the subject of tuberculosis in cattle was taken up by the Board of Health of the Republic. Infected cattle were killed, and a rigid quarantine was established. It is likely that there was very little tuberculosis among the Hawaiians at this time, and the cases reported may very well have originated from exposure to bovine tuberculosis. At any rate, about 1895, Government physicians in Hawaii were asked to report on tuberculosis, which information from 1898 to the present shows a slight increase in the disease, and a much larger death rate from it in the last four years. It was natural to expect an increase after annexation, when the passage of soldiers and others to the Orient, the arrival of large numbers of Porto Ricans and invalid tourists, brought new cases to our shores. The spread remained unchecked, except by the naturally favorable climatic conditions of the country.

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In the six months ending December, 1906, there were 178 deaths in Honolulu due to consumption, about one-third of them among natives and half-whites.

In his report covering the same period, Mr. Pinkham, a vigilant and progressive executive,* says:

"The more ignorant and prejudiced will not listen to advice or accept good offices kindly tendered. * * * The right to be sick and die, and ignorantly sow infection in others is tenaciously maintained. * * * The well-informed disclose but little more discretion and consideration than the ignorant. Public opinion will not now sustain *radical measures,* but in the future may think it best to protect general health from the disease."

So far as the spread of tuberculosis is concerned, the native Hawaiian, if possible, is more indifferent than the ignorant Caucasian. He takes no measures to save the members of his household from infection, and lives as the leper does, in intimate contact with his kind. Besides, the houses of the majority of the natives are small, and ill-ventilated; four or five persons sleep on one mat in a small room, and no attention is paid to disinfection.

Fortunately for the consumptive in Hawaii, the climate is nearly everywhere favorable to recovery. The average native lives a life of ease, and, therefore, rests; and he spends a great portion of his time out of doors, fishing and bathing. Yet, despite all this, incipient tuberculosis in Hawaiian patients, if untreated, generally ends as it does in the majority of other non-supervised cases.†

THERE IS NOT, IN HAWAII, A SANATORIUM OR HOSPITAL SOLELY FOR THE CARE AND TREATMENT OF TUBERCULOSIS.

A Home for Incurables in Honolulu has some provision for specific cases of pulmonary tuberculosis, but the institution is not sufficiently endowed, and depends largely upon contributions for its maintenance. Moreover, it is not in the right place for a territorial institution. In a recent report to the Federal Government, the President of the Board of Health says:

"Not only on the Island of Oahu, but even more marked on the western, or Kona, side of the Island of Hawaii, persons of means suffering from tuberculosis could find relief.

"This favorable district is some thirty miles long, and is on the slopes of mountains rising to a height of nearly 14,000 feet. Those mountains shelter the coast from the prevailing winds, which are east. The first 900 feet of elevation is barren lava—above that, to an elevation of 2,200 feet, is

* L. E. Pinkham, President of the Board of Health, and Vice-President of the Hawaiian Society for the Prevention and Relief of Tuberculosis.

† I have recorded seven deaths from tuberculosis in one Hawaiian house.

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one of the most exquisite and equable atmospheres to be found anywhere. The foliage is very attractive; no water remains on the surface when it rains. The temperature never rises above 80° F., and even at that degree, should a person stand in the shade, he would experience a refreshing and bracing breeze. The district presents a dry atmosphere from below, tempered by freshened air from above. We have reason to believe that there are few places presenting the climatic advantages of this district. The average rise of land from the sea is from 8% to 10%. The mountain is skirted by a most excellent macadamized road at an elevation of 1,400 to 2,000 feet. The Pacific ocean lies directly below, and in sight at every point."

The Commission appointed by the Governor of New Hampshire to report on a site for a State sanatorium, advised a location not less than 500 feet above the sea.

Dr. Bowditch, of Boston, says a moderate elevation up to 1,000 feet.

Dr. King believes that high altitudes limit the "usefulness of sanatoria," and the consensus of modern medical opinion is that 1,000 feet is the ideal elevation in most countries.

In dry countries, like some portions of California, New Mexico and Arizona, there are successful institutions as high as 6,000 feet, but in the tropics this would be too high, and on wooded mountain areas one could not safely treat cases above 2,000 feet.

The rule as to a 500-foot limit applies here; less than this is too low for locations in Hawaii.

The Wisconsin State Tuberculosis Commission, in its report on sites, states:

"Of first importance is general accessibility. * * * Yet it should not be located too near a town or village. * * * For several reasons a relatively low degree of humidity and equability of temperature is, of course, desirable * * * but a maximum amount of sunshine is much more important than the mere matter of temperature or moisture. * * * In selecting a proper location, *protection from winds* is of more importance than almost any other factor, inasmuch as it is necessary for the patient to remain out of doors a greater part, if not all of the day, winter and summer. Care must be taken that ample protection be afforded by means of *forests and hills.* * * * This protection should be especially good from *east winds.* * * * The main advantage of forested areas is the relative freedom *from dust.* * * * Elevation 1,000 to 1,200 feet. * * * Too marked an increase of altitude is not infrequently deleterious to the health of the consumptive. The sanatorium should be placed on rolling or hilly ground so that the patients are not exposed to the action of *local fogs.* * * * Hilly surroundings are also desirable for the purpose of exercise. It is desirable that gentle, graded ascents be used—if possible, a high

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elevation should be had for water reservoir. * * * A fine prospect is desirable for the *mental effect which it exerts upon patients. Favorable views, vistas, woodland and water make the ideal combination.* * * * The sanatorium should be placed on light, *well-drained soil.* It is especially desirable that the walks and paths be constructed so as to dry quickly after rains. * * * There should be soil suitable for certain types of farming. * * * Eggs, milk and vegetables must be had fresh, and in abundance. * * * An adequate supply of pure drinking water."

A great deal has been said about treating patients where they live without regard to climate. This is preferable to sending a man without means to a country where he has to look for a "job" in order to get the benefit of the climate. But in incipient, as well as advanced cases of consumption, climate is a very important matter, indeed, and the country or location which provides the classical conditions, namely, out-door life, pure air, all day and all night; enough warmth, but not too much; enough sunshine, but not too much; exemption from winds, a sufficient movement of air, the right amount of atmospheric aridity, freedom from fogs, dust and noises; facilities for gentle exercise and rest; a body of water at the right distance, a slope, forest, porous soil; just enough rainfall at the proper time, available fruits and other necessary foods; good water, and the inspiring view, is the *best* country or location for the case.

A cheerful summer and winter aspect is, indeed, very requisite as a therapeutic adjuvant. The word climate is derived from the Greek *klima,* slope, declivity; or, more freely, aspect. And while we no longer hold to this rigid definition, including under climate all the physical phenomena bearing on the animal and vegetable life of a particular locality, aspect has much to do with climate. If there is no alternative, consumption may be treated in a climate like that of Chicago; in a high brick building, surrounded by fogs and trolleys, but who would choose such a sanatorium?

Dr. H. P. Loomis recently said to his fellow practitioners:

"I can almost positively affirm that if ony one of you here tonight should develop consumption you would make every sacrifice to leave New York, and go and live in a suitable climate. I notice that the medical profession, to a man, when they become infected with the disease, follow this plan. * * * Climate, then, is the only curative agent which has stood the test of time."

Now, of all places in the world, Hawaii is blessed with a good general climate. It is, on the whole, extraordinarily favorable to tuberculosis. And there are areas in it which furnish all the classical conditions as determined by impartial State commissions.

There is also a "best place" acknowledged by the local profession, situated on the largest island of the group—Hawaii. It lies on the leeward slope of a forested mountain, where the sun shines a large number of days in the year. At an elevation of from 900 to 1,000 feet, in some locations,

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the rainfall is small, the air balmy, summer and winter; the nights invariably cool, with a temperature ranging from 58° F. to 75° F. There are no high winds, except an occasional kona, warm and damp. It comes once or twice a year, and lasts about twenty-four hours. Very seldom is there an electrical storm. There are no fogs, dust, mud. The soil is porous, and dries quickly after a rain. Where it is deep enough, the soil is fertile, and will grow fruits and vegetables readily. Every morning, almost without exception, is clear; the rain in the wet season generally falling in the afternoon or at night. The air is always cool, tempered by a breeze from the sea inwards, during the day, and followed by a cooler breeze from the mountains towards the sea at night. The view in any direction is unparalleled; miles of coast-line towards the west and south, with groups of cocoanut groves and little villages scattered here and there.

North and east rises Hualalai, with its heavy forest, 8,000 feet high: all around us forests of kukui, lehua, and other native woods. The whole district is essentially an agricultural one, and we have, in their season, oranges, limes, mangoes, alligator pears, pineapples, grapes, peaches, guavas, cocoanuts, bananas, and other smaller fruits. The several large dairies furnish butter and milk. Dryland taro, grown all about, supplies us with one of the most wholesome and nutritious, as well as palatable, foods to be had anywhere.

From the port to which regular steamers ply, is a good road, continuous with the Government road, well macadamized, which encircles the island. There are several parallel roads running shorter distances. Land can be bought or leased in considerable tracts, and the Government could easily secure enough land in a favorable location for an adequate sanatorium. The beach is everywhere conveniently near, and can be reached for a climatic change or a bath, while higher altitudes, up to 6,000 feet, are accessible by trail.

The leper settlement at Molokai is an example of successful institutional work maintained by the Government, and the time may come when tuberculosis in Hawaii is as great a scourge as leprosy has been. But if we wait we may have the same difficulty to eradicate it. *Now is the time for the establishment of a territorial sanatorium.* The President of the Board of Health has just written a public letter, in which he says:

"I believe the board should confer with the Hawaiian Territorial Medical Society, and compile a set of advisory regulations as to the control of tuberculosis, and the means of protection from contagion of those exposed."

Governor Carter has personally expressed himself to me* as being favorable to definite and prompt action in regard to tuberculosis in Ha-

*I believe if the Medical Society of Hawaii should take hold of the question of tuberculosis * * * and start a campaign of education, furnishing the Department of Public Instruction with manuscript and stirring public opinion up so that the Legislature will make an appropriation for the printing * * * much can be accomplished.—[Letter from Governor Carter, August, 1906, to writer.

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waii; but he has lately opposed any appropriation by the legislature towards the needs of the indigent sick; an attitude which I can not but regard as unwise at this time.

In his paper, entitled "The Progress of the Sanatorium Movement in America," Dr. Baldwin says:

"The danger of still further infection from the dying consumptive, if not properly cared for, is so great that if we are ever to overtake the disease it is necessary to care for the advanced as well as for the incipient cases."

After hunting the Southwest for a suitable location for the Federal sanatorium, it was finally placed in New Mexico, which has the type of climate found in Western Texas, Arizona and California.

Our expert meteorologist, Professor Moore, writes of climate:

"Climate affects the health, happiness and well-being of people more than any other condition that goes to make up their environments. Within the broad confines of the United States there are many, but not all, shades and varieties of climate.

"One of the questions most frequently asked is: 'Where shall I find a climate possessing both dryness and equability of temperature?' To this interrogatory, reply must be made that the ideal climate, as regards equability of temperature and absence of moisture, does not exist in the United States, but that the nearest approach to it will be found in the great Southwest.

"The temperature of the Southwest is not equable in the sense of having an extremely small daily range, but it possesses the quality of annual uniformity in a greater degree than will generally be found elsewhere, except on the sea-coast, and there the humidity is great."

And yet Dr. Carrington, of New Mexico, who writes generously of his own climate, acknowledges:

"That feature of the climate of New Mexico which detracts more than any other from its general excellence, is the occurrence of high winds in the late winter or early spring months. * * * They are also referred to as 'sand or dust storms.' * * * They frequently prevail from two to three days at a time. * * * After the wind has been blowing from twelve to twenty-four hours, a greater or less quantity of fine dust becomes apparent, and is extremely annoying. * * * Such storms have an undoubted effect upon the nervous system of patients. * * * The second objectionable feature * * * is a wind which blows occasionally during the winter and spring months from the east or southeast."

Those who have experienced these winds will remember them, and also the fogs which often follow.

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The humidity spoken of by Mr. Moore is usually found in Hawaii, but as I have already said, in Kona there are locations with the dryness needed as well as the equability.

In founding a territorial sanatorium it would be wise to have a hospital for the advanced cases, on the same grounds, of course, and under the same supervision. This will only be lining up with other States and territories which, beginning with Dr. Trudeau's sanatorium at Saranac Lake, New York, have established sanatoria for work. Dr. Knopf has well said that this is the first duty of a government.

States without such provision are beginning to be ashamed of their indifference, if not their inhumanity, and their boards of health are asking for the necessary appropriations.

Hawaii claims to be so poor that she can not furnish her sick poor with hospital care, yet at the last session of the legislature $15,000 was appropriated for the traveling expenses of a party of United States Congressmen and their wives, all of whom, no doubt, are in good health and well-to-do. It must not be inferred from this that we do not have generous and public-spirited citizens, or that our officials and legislators are not humane and anxious to provide for the needs of their own people; the appropriations for the needs of the leper settlement show that this is not so. The seeming indifference is due to lack of attention to the subject. It has not been considered a live question, and for this we of the medical profession are to blame.

Dr. Edward T. Devine, in an address published by the National Association for the Study and Prevention of Tuberculosis, said:

"The problem then, for laymen, for legislators and public officials, for the public press and other instruments for the molding of public opinion, in relation to the scourge of tuberculosis, as in relation to any other great epidemic, may be defined to be the centering of complete responsibility upon the medical profession.

"Responsibility can be devolved upon the medical profession only by meeting the conditions which authoritative medical opinion prescribes as essential."

Personally, I have, in a small way, tried to instruct the children of my districts, some 1,000 in number, by addressing them on hygienic subjects, and by the time this paper is published I hope that the Hawaiian Society for the Prevention and Relief of Tuberculosis will be *un fait accomplit*, and a duly affiliated branch of the National Association.

Perhaps, when the next legislature meets, our efforts will have accomplished enough to induce our law-makers to appropriate sufficient money not only to build, but to maintain, a well-equipped sanatorium in the best location Hawaii affords.

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GENERAL VIEWS IN THE DEFICIENCY OF THE SPHINCTER APPARATUS.

By Byron Robinson, Chicago.

[Written for the Medical Brief.]

(Continued from page 329.)

As regards suture material, Sims, Thomas, Emmet, and others, applied metallic wire to plastic labors on the perineum during the past thirty years. The modern tendency is to use silkworm gut as a non-absorbable suture. This may be allowed to remain *in situ* for weeks in a wound, and acts as splint in coapting the surfaces. It is easy to remove. To Dr. T. A. Emmet is due the credit of introducing a method of perineorrhaphy which, until recently, was the one generally practiced in America. In 1883, Dr. Emmet published a new method, or rather a modification of his old operation. Dr. Emmet denudes the sulci on each side of the vagina, and extends the perineum ventralward. His operation is intended to repair perineal fascia and muscles. Dr. Emmet holds that loss of support following a laceration is not due to injury of the perineal body. The loss of support after child-birth, he claims, is due to rupture of perineal muscles and fascia. Dr. Emmet's operation is difficult to make clear by description, but it consists in lateral denudation wholly within the vagina to such an extent that the sutures introduced are drawn on tension, the excess, or slack, in the dorsal-vaginal wall disappears. The ostium vaginæ is not interfered by any special denudation. The claim of his operation is that discomfort disappears immediately after, and also that the dorsal-vaginal wall is forced in the proper position and relation to the ventral wall, as it is in the normal condition. The view maintained in this surgical procedure is that the perineal body is insignificant in support, and the laceration of it alone impairs but little the integrity of the genital supports. But the laceration, or excessive stretching, of the perineal muscles and fascia at the attachments to the genitals, quickly disturbs the delicate balance of the pelvic organs. There is one point against Dr. Emmet's operation, and that is the relatively blind method of introducing the proximal sutures. In other words, the deep layers of the lacerated pelvic fascia may not be included in the sutures with any degree of certainty. Dr. Gill. Wylie added that the idea of Dr. Emmet's operation would be improved by denuding the dorsal vaginal wall a considerable distance, and then continuing the denudation well proximalward into the dorsal vaginal sulci. This method, however, sacrifices a larger amount of dorsal vaginal wall.

About 1872, Mr. Lawson Tait, of Birmingham, England, began to introduce a method of perineorrhaphy known as the flap method. It differed from all others in that he used elbow scissors, and introduced the very deep sutures without penetrating the skin or mucous membrane. It involved no loss of tissue. The direction for doing the Tait operation is

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to resplit the old cicatrix. It is modified according to the condition of the case, as one may produce ventral and dorsal cuts. Tait's flap perineorrhaphy is now quite generally practiced. I have not attempted to give all known historic methods of perineorrhaphy, but simply the chief ones, from which we have built the modern operation.

GENERAL INDICATIONS FOR PERINEORRHAPHY.

1. To restore rectal and vaginal functions.

2. To restore pelvic fasciæ and muscles. Normal fascia is required for normal circulation.

3. To restore normal relation and support of the dorsal wall (colporrhaphy dorsal). The dorsal vaginal wall sustains the ventral vaginal wall and bladder.

4. To provide as much support for the pelvic organs as the restoration of the perineal body will afford.

5. To remove the neurasthenic conditions; to relieve the innumerable nervous associations; in short, to relieve mental and physical disturbances.

6. To repair and check sacro-pubic hernia.

7. To limit relaxed pelvic outlet.

The pelvic floor is closed from dorsum ventralward by the pyriformis, with its thin, delicate fascia, the firm sacro-rectal ligaments, the coccygeus, with its moderately strong fascia; the levator ani muscle, with its levator ani fascia, superior and inferior, a strong, double-fibrous protective muscular sheath, and also the triangular ligament, a powerful layer of fibrous tissue. The coccygeus, with its fascia; the levator ani, with its double fascia, and the triangular ligament practically constitute the pelvic floor, and seem to separate the pelvic cavity from the perineum. These are essential structures in colpoperineorrhaphy. The levator ani fascia (both layers) pass from the lateral wall of the pelvic to the viscera, firmly attaching themselves to every pelvic organ, forming the strong, fibrous expansions known as ligaments, which serve to hold the pelvic viscera in definite fixed relations. In perineorrhaphy, success depends on the restoration of these vital supports; a significant anatomic fact in the pelvic pathology is that the blood vessels lie proximal to the pelvic fascia, and the nerves distal to it. The blood vessels which arrive in the perineal region pierce the pelvic fascia, and pass chiefly through the sacrosciatic notch.

The levator ani fascia, proximal and distal, is an important structure to limit infection. It separates the ischiorectal fossa from the pelvic cavity proper, where so much loose tissue exists. The levator ani fascia is pierced by vessels and nerves, and these vessels and nerves are surrounded by lymphatic sheaths, which are a source or path by which the infection

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may travel from the pelvis to the ischiorectal fossa, and vice versa. In perineorrhaphy the levator ani fascia, proximal and distal, is incised. The operation which is performed for the restoration of the perineum exists under different names.. It may be termed perineorrhaphy, perineo-vaginal restoration, perineal extension, perineauxesis, or the flap method. However, I think the best name is colpoperineorrhaphy. Colpoperineorrhaphy is an operation to restore the integrity of the supports of the sexual organs. These supports include those of the peritoneum and vaginal sphincter apparatus.

The perineal body is situated between the distal end of the vagina and rectum. Difference of opinion still prevails as to the utility of the perineal body in economy of the female genitals, but, from many dissections and considerable work on the subject, I claim the following functions for the perineal body:

1. It sustains the distal ends of the ventral rectal wall and dorsal vaginal wall.

2. It supports and directs the discharging end of the vagina ventralward, aided by the triangular ligaments and levator ani.

3. It supports and directs the discharging end of the rectum dorsalward; the rectum is directed dorsalward the levator ani muscle.

4. It not only maintains the discharging ends of the rectum and vagina widely separated, but it affords both a support in a curved direction at their termination, thus affording mechanical advantages for maintaining closure of both apertures, and preventing the easy escape of the contents of either canal. The extensive divergence of the two canals avoids mingling of the secretions and consequent irritation from decomposition. The dorsalward hook of the rectum, and the ventralward hook of the vagina are an important factor in support, and prevents patency, gaping. The perineum is the skin between the anus and vagina. The perineal body consists of skin, fat, muscles, fascia, elastic, and connective tissue. The perineal body, as a support in itself for the genital organs, has been much over-estimated.

5. It serves as the point of union of four muscles: the levator ani, the sphincter ani, the bulbo-cavernosus, and the transversus perinei. It serves, also, as a point of union of the various fasciæ. It is a *fixum punctum* for the perineal muscles and fascia on which to act.

6. It acts as a partial support of the pelvic floor.

7. It strengthens a tried point in labor.

8. Laceration of the perineum, to any considerable extent, destroys the nice balance between anatomic structure and physiologic function in the female genitals.

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The object of perineorrhaphy is: To restore partial ruptures; to restore rectal functions after complete ruptures; to prevent prolapse of the pubic segment of the pelvic floor.

The methods of performing perineorrhaphy are denudation with fixed coaptation, and the flap method. The etiologic factors of lacerations are parturition, instrumentation, and trauma. Partial laceration of the perineum may be accompanied by pudendal patency; increased vaginal secretion; irritability of parts; pathologic condition of nerve structure; neuralgic or neurotic conditions, induced by long-continued local lesions; descent (distention) of ventral rectal wall, dorsal vaginal wall and uterus. Complete laceration of the perineum may be accompanied by pudendal and anal patency; increased vaginal and rectal secretion; incontinence of bowel contents and occasionally of bladder contents; irritability and disease of the adjacent parts from the abnormal secretions; neuralgic and neurosal conditions from changes in nerve structure; melancholia (neurasthenia); relaxation of the displaceable segment of the pelvic floor, and consequent prolapse, or hernia, of the pubic segment. The result may be severe congestion from a disturbance of the fascia which maintains the blood-vessels in relation. If the blood-vessels become distorted in their bed, disturbed circulation results.

In discussing the operation for colpoperineorrhaphy by Emmet and Tait, I shall consider these both founded on anatomic principles, both practical and successful operations, and both arriving at the same end by different methods. However, since I can accomplish by a flap method exactly what Dr. Emmet accomplishes by denudation, I have preferred to follow the flap procedure. Dr. Lucy Waite and I have employed the flap method for over sixteen years, comprising hundreds of operations performed for almost all kinds of perineal laceration and uterine prolapse. In one case the uterus was completely prolapsed for fourteen years. Another case of thirty-four years' standing, with laceration extending up the rectum the length of the index finger, was operated successfully after three previous denuding operations. A third case of twenty-eight years' standing, was lacerated through the rectum for four inches, and had passed through three unsuccessful operations. One of twenty-seven years' standing, with several unsuccessful operations by well-known gynecologists, were operated on with perfect success. In these cases of long standing, atrophy was so far advanced, from limited blood supply and the non-use, that it required extensive flaps in order to secure tissue for a perineal body. To show that the perineal body is not significant in uterine support, several of these patients continued for over twenty-seven years with laceration several inches proximalward in the rectum, with scarcely a symptom of uterine prolapse.

It will be observed, from even a superficial experience, that the patient should be properly prepared for colpoperineorrhaphy. If the patient has

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a long, pointed cervix, which acts like a conic wedge, being driven in distalward at every breath or increase of intra-abdominal pressure, it will constantly dilate the vaginal sphincter apparatus, and should be amputated. The amputation may produce involution of the uterus. A long, pointed, conical cervix generally has proximal to it a retroverted uterus, which precedes prolapse.

Again, if there is cystocele the patient should be prepared by a ventral colporrhaphy. It may be that amputation of the cervix and ventral colporrhaphy can be done at the same sitting and anæsthesia, as the flap-splitting colpoperineorrhaphy. We frequently perform colporrhaphy and colpoperineorrhaphy at the same time. To require cervical amputation is rather rare, but if there be a retroverted uterus, with pointed cervix, it should be amputated and turned dorsalward against the sacrum. In short, we must imitate nature as much as possible to secure success. All hernia is the same; it is due to the destruction of normal valves, and the extending and straightening of oblique canals. Hence, in sacro-pubic hernia the normal obliquity of the vaginal canal must be restored. Colpoperineorrhaphy restores the dorsal vaginal wall, and ventral colporrhaphy restores the ventral vaginal wall. This is not often needed if the colpoperineorrhaphy be thoroughly performed. Prolapse is prevented by perineorrhaphy, elytorrhaphy, episiorrhaphy (or checked by some abdominal operation). Prolapse may be considered as a distalward displacement of the pubic segment of the pelvic floor; the sacral segment of the pelvic floor shares in it by yielding of some of its parts. There are so many varied opinions as to the etiology of prolapse that one can safely say the subject is not fully settled. In my opinion, much credit is due Drs. Hart and Barbour for their excellent investigations on the structural anatomy of the pelvic floor. After considerable careful dissection, I feel quite sure that many previous views must be changed, but it is hopeful when the closest and most continued students of the pelvic floor come practically to the same conclusion. The subject of prolapse, I think, should be studied anatomically, physiologically and clinically. The field of investigation is still large. With the progress of time the uterus itself will receive less attention, and the pelvic floor more. The subject of relaxation and submucous laceration will be more studied, relaxation of the whole pelvic floor, due to repeated parturitions, infectious processes and prolapse. Insufficiency of perineal support should not be lost to view, and the sphincter apparatus of the pelvic floor will be more studied. From dissection, one would at once conclude that the levator ani fascia and triangular ligament were the main supports in the pelvic floor; however, relations of other supports must be considered. Dissection is the only intelligible way to understand the subject. For example, dissection of quite a number of bodies has thoroughly explained, in my mind, the conflicting views of anatomists and gynecologists as to the position of the uterus. As a gyne-

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cologist, I have examined thousands of women, and I am sure that the uterus inclines ventralward, in the normal condition. Repeated examination on the dorsum, and while standing, will prove that slight anteversion is the normal position of the uterus in the cavity of the sacrum. I have repeatedly found in a dead subject that the uterus is in the cavity of the sacrum, precisely as the anatomist has described. Both gynecologist and anatomist are correct. In the living woman the normal position of the uterus is that of anteversion. In the dead woman, in dorsal decubitus, the uterus generally lies in the cavity of the sacrum. In just such a manner arise the differences of opinion relative to prolapse, which can be only cleared by personal anatomic and clinical investigation. A comparison of different causes will soon let in the light.

The most valuable work in gynecology, as regards sacro-pubic hernia, will be produced by the combined labors of a gynecologist and an anatomist—notably, the book by Tandler and Halban.

Though the peritoneal supports of the uterus be deficient, they can be put at rest and finally cured by carefully-planned operations on the vaginal sphincter apparatus. All primary uterine supports are attached to the neck of the uterus, and before the uterus shows such signs of hernia the supports attached to the neck must be definitely elongated. Doubtless the uterine supports are frequently elongated by infective processes, and hence a rest by repairing and fortifying the sphincter vaginal apparatus will result in restoration. Especially is this true in certain forms of retroversion. If the uterus remains in its normal position (*i. e.*, perfectly movable) no retroversion, and consequent prolapse, will arise. In chronic infective processes the pelvic organs at times hypertrophy, become edematous, ending in a form of hypertrophy from static congestion. I have frequently observed this slow-repeated process in clinical labors.

ETIOLOGY OF PROLAPSE.

1. Insufficiency of sphincter apparatus: (*a*) Levator ani muscle; (*b*) triangular ligament (ventral and dorsal layers and fascia of Colles); (*c*) levator ani fascia, proximal and distal; (*d*) perineum composed of levator ani, bulbo-cavernosus, transversus perinei and sphincter ani ischio-perineal ligaments; (*e*) vaginal walls; (*f*) urethro-vaginal septum; (*g*) recto-vaginal septum; (*h*) muscular and elastic tissue on lower third of vagina.

2. Insufficiency of peritoneal supports: (*a*) Utero-sacral ligaments; (*b*) round ligaments; (*c*) broad ligaments; (*d*) vesico-uterine ligaments; (*e*) perineum; (*f*) elongated cervix.

3. Intra-abdominal pressure increased or applied in abnormal directions.

4. Relaxation of ventral segment of the pelvic floor: (*a*) Repeated parturition; (*b*) submucous, concealed facial lacerations; (*c*) subinvolution of the pelvic floor and organs.

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5. Weight and dimension of uterus, which affords expanded surface for intra-abdominal pressure.

OPERATIONS FOR PROLAPSE.

1. Tait's flap operation (and extension) of perineum.
2. Perineo-episiorrhaphy.
3. Elytroperineorrhaphy.
4. Elytrorrhaphy.
5. Amputation of cervix.
6. Shortening of round ligaments (Alexander-Adams).
7. Shortening of broad ligaments.
8. Fixation of the uterus to the abdominal wall (hysteropexy).
9. Schucking's operation.
10. Herrick's operation.
11. Mackenrodt's operation.

The operations for prolapse have been as varied as the views of its causes. Operators have attacked the uterus, vagina, pudendum, and uterine ligaments to accomplish their purpose. The pioneer idea in prolapse was to close the pudendum, so that the uterus could not escape. Thus we have the early episiorrhaphy of Fricke and Kuchler. But surgeons soon realized that simply closing the pudendum was like attempting to board Mount Vesuvius. The forces at work were not at the pudendum, but deep in the interior. Then came the operations on the perineum, with all their variety, from Guillemeau's successful case through Dieffenbach, Langenbeck, Simon and Sims, to the modern flap operation. Finally, to episiorrhaphy and perineorrhaphy were added operations on the wall of the vagina (colporrhaphy and elytrorrhaphy). Elytrorrhaphy has been quite a successful addition to gynecology, but it is a denudation operation, and hence destroys valuable tissue. I have observed that the European operators attempt to save dorsal and ventral columns of the vagina. Men see in the column a valuable piece of supporting tissue, and some of them, like Martin, try to save it. Dr. Emmet has worked along the same line, and his operation is one of the most useful of its kind, and if mastered and performed thoroughly, is successful. In it he has combined the best principles of the denudation method. It preserves the vaginal columns and denudes the areas of least resistance. His idea of supporting the pelvic floor is certainly correct. If the flap-splitting method could be enlarged in this operation it would be a marked step in advance. The pudendal and vaginal operation of denudation should be superseded by the flap-extension method, which might be called perineo-episiorrhaphy. It is performed with no loss of tissue, and can be extended to the urethra. The quantity of flap and barrier tissue formed at the pudendum will depend on the depth of the scissors' clip, and the quantity of exposed tissue, and also

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much of the manner of the suturing the surfaces to be coapted. The flap-extension method will form one of the best supports for prolapse. The objections against the Alexander-Adams operation are:

1. The ligamenti rotundi uteri are not uterine supports—they may act as a guy rope.

2. Unsatisfactory reports and the bias in selecting cases for operation.

3. In quite a number of bodies the round ligaments can not be found. In many cases which I have investigated no muscular ligaments could be discovered until one incised the internal abdominal ring.

4. No operator can decide in which cases the difficulty will occur.

5. The danger of opening the peritoneum.

6. The round ligaments are insufficient for a main uterine support.

7. Hernia may follow the operation.

8. In case of uterine adhesions the ligaments will not raise and support the uterus.

9. It is an irrational operation. It fixes the uterus, which is pathologic. The uterus belongs in the pelvis—not in the abdomen. The operations will require repetition about as frequent as one requires the hair clipped.

10. It attempts to substitute one alleged pathologic condition (*i. e.*, that of excessive mobility) for another (*i. e.*, that of fixation), and mobility is superior to fixation. Results will not be permanent. The round ligaments will gradually yield to the uterine weight, especially if there be an enlarged uterus, as often is the case in prolapse.

Some of the above objections may be modified. The Alexander-Adams: as the round ligament neither maintains the uterus in position, nor suspends it. It is here mentioned, as an accessory operation to colpoperineorrhaphy, only to condemn it. Shortening the broad ligament is of questionable value. Hysteropexy, or the fixation of a movable organ, is against all pathologic principles.

(To be continued.)

THE PAIN OF SIGMOIDITIS.

For the *pain* of an acute exacerbation of chronic sigmoiditis, opium, or any of its derivatives, for well-known reasons, should never be prescribed. Usually the evacuation of the bowels is promptly followed by the subsidence of the more intense pains. Hot applications and counter-irritants may be applied to the abdomen, the buttocks, and the thighs. In case the painful sensations continue, suppositories containing belladonna, the extract of powdered leaves, should be inserted into the rectum, as high up as possible. If tenesmus is present, it is advisable to add lupulin in gram doses to the suppository, which should have for its base a glycero-gelatinous mass.—Stern, *American Medicine*, March, 1908.

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MANAGEMENT OF THE EARLY STAGES OF GONORRHOEA—A PLEA FOR CONSERVATIVE AND EXPECTANT METHODS OF TREATMENT.

By E. Styles Potter. M. D., New York City.

Late Assistant Visiting Surgeon Columbus Hospital and Instructor of Anatomy and Operative Surgery New York Post-Graduate Medical School and Hospital; Member American Urological Association, New York County Society, Medical Association of Greater New York, etc., etc.

[Written for the Medical Brief.]

In the management of this very prevalent disease there appear each year many new remedies; prominent among them are many which appeal to the profession for recognition upon the ground that they possess power sufficient to abort the acute septic inflammation produced by the inoculation of the gonococcus in the urethra.

In some cases certain of the silver preparations do seem to have an influence for good in this direction, at least when used in connection with other forms of rational internal treatment, but when employed locally, as an abortive measure, it has been the experience of the author that they result only in disappointment.

In the management of acute septic inflammations of the male urethra we should never permit ourselves to be carried away with the idea that any remedy can be considered a specific; still we should never lose sight of the fact that gonorrhœa is an acute local inflammation, and when it is possible to place our patient in the proper hygienic condition, where rest in bed is possible, conjoined with a light, bland diet, and the liberal use of water, free from all sexual excitation, and under a normal psychopathic condition, combined with the simplest remedies, most cases would recover without further treatment in about two weeks, the time needed for the resolution of all other acute inflammatory conditions occurring in other parts of the body.

Gonorrhœa will always continue to be a disease of long duration, with many complications and sequelæ, until we finally train ourselves and our patients to understand that they are seriously ill when the simplest forms of gonorrhœa infection occurs, and that it is eminently necessary that they should remain confined to their apartments, and discontinue all manual labor, and to place their mind at rest for at least the first week or ten days after infection has occurred. Then, and only then, will we be doing what is just to our patient and the uninfected members of the community.

This may at first seem very impracticable; and, in fact, in many cases, is simply out of the question, but I am of the belief that should this system of treatment come in general vogue there would, in the aggregate, be

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less time lost from business, and an immeasurably less amount of suffering, and beyond any question of doubt fewer of the innocent infected.

For the slightest nasal or pulmonary inflammation we urge upon our patients the necessity of remaining confined to their apartments, and why not for this most serious of all infections when it occurs?

There occurs to my mind but one reason, and that is simply that it is impossible to remain away from one's business, the necessities of at all times being in evidence in this respect. I concede to the reasonable demands of this kind, and truly realize that this becomes a most serious objection to the rational treatment of a disease which has in the past been considered but of slight importance, and from the manner of contraction has through all ages been considered more in the class of a joke.

In admitting this to be true, I can only urge upon my colleagues the necessity of at all times carrying this form of treatment into practice whenever it does become possible to do so, and when not practical to do so, absolutely, then never forget or lose sight of the fact that so far as possible it should always be urged upon the patient.

Place less dependence upon specifics promising abortive treatment of gonorrhœal infection, and recall to your mind some of the rational ideas you have forgotten in your clamor for the something which has not yet been discovered.

When I have been able to follow this course of treatment with the internal administration of balsams and urinary antiseptics, and the liberal use of lithia water, the most gratifying results have been obtained. The object to be obtained in these cases is an early resolution, which usually commences in ten days from the onset of the inflammation.

It is not unusual when this course of treatment has been faithfully followed, and at the time resolution commences, when a mild astringent injection is instituted, to find the discharge completely arrested within a few days.

The suffering to the patient during this system of treatment is of the slightest, and it is the belief of the author that the means justifies the end, as the results to the patient and surgeon are most satisfactory.

164 W. 92d street.

DRUGS SIMULATING SUGAR IN THE URINE.

Coleman states that the following drugs, when ingested, may cause the urine to reduce Fehling's solution, and respond to some other tests for sugar: Acetanilid; arsenous, salicylic and dilute hydrocyanic and sulphuric acids; alcohol, amyl nitrite, chloral, chloroform, copaiba, glycerin, mercury, morphine, strychnine, turpentine.—*The Medical Council.*

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CURRENT MEDICAL LITERATURE.

Prolapse of the Female Urethra.

G. F. Barbour Simpson (*Surgery, Gynecology and Obstetrics,* May 1908) says that it is not uncommon, on the one hand, to find slight eversion of the mucous membrane lining the female urethra, more especially in parturient women. On the other hand, it is rare to meet with cases in which the mucous membrane projects to such a degree as to give rise to a distinct bulging, or tumor. He gives the history of a case which came under his observation, a multipara of fifty-six years, complaining of hemorrhage and pain on micturition. The attacks of hemorrhage were periodic, sometimes lasting for an hour. Owing to no less than three attacks of nephritis during the past five years, she was in a very feeble state of health. Examination disclosed a red mass protruding at the meatus urinarius, which turned out to be the mucous membrane of the urethra, very red, congested and sensitive to touch. Under anesthesia, it was impossible to reduce this protrusion, so it was snipped off with scissors, and the mucosa was united all around by sutures, a catheter having been previously introduced to keep the canal patent. The hemorrhage was profuse. Ten days afterwards there was complete healing, and no pain or discomfort on micturition. The microscope showed the specimen removed to consist of angiomatous tissue.

The causes ascribed by most writers for this condition are a sudden fall, causing a prolapse of the mucosa, or a large caruncle dragging on the mucous membrane, and producing gradual eversion. Or again, and not at all unlike in the foregoing case, the constant straining undergone by the patient at stool, and a degree of vesical tenesmus, combined with a relaxed state of the mucous membrane, due to the general debility of the patient, may have favored, if not altogether caused, the condition. Such conditions as cystitis, and the presence of a calculus producing more or less continual tenesmus, have been known to produce this state of affairs. Kleinwaechter has described two varieties of prolapse of the urethra, one in which the mucosa, near the meatus, is everted; the other in which it becomes loosened higher up, gradually extending down until it appears at the meatus urinarius.

Observations on the Rectal Temperature after Muscular Exercise.

Martin Flack (*British Medical Journal,* April 18, 1908) states that it is well known that the bodily temperature is increased by exercise, but a difference of opinion exists as to the normal extent of this increase, and also as to the degree to which the temperature may rise without pro-

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ducing ill-effects. By many it is thought that the extra amount of heat produced is met, as a rule, by a corresponding increase in the amount of heat loss, so that the resultant body temperature is but little, if at all, raised, and that should any great increase take place a number of characteristic symptoms ensue. This view is probably due to the method of taking the temperature. It has been shown by Pembrey and Nicol that mouth and axillary temperature readings are unreliable, particularly in cold weather and after muscular exercise. The most reliable method is per rectum. Observations made by the writer and Hill at the London Hospital and Inter-Hospital Sports of 1907, when the weather was bleak and moist, with cold winds blowing, showed that the longer the effort on the part of the athletes the higher the temperature rose. One subject, after a 220-yard race, in which he finished first, had a rectal temperature of 100.85° F. Another, finishing first in the mile race, showed a temperature of 102.6° F., the temperature reading being taken one minute after the race. A number of other observations were made at this time, all showing a rise of temperature after body exercise.

A second tabulated series of cases was compiled from the temperature readings taken on the members of the winning team at the Inter-Hospital Rugby Final, on March 12, 1908. The afternoon was sunny, fresh and cool, with but little wind blowing. The subjects, when their temperatures were taken, felt "quite cool," yet they all showed temperatures ranging from 101.6° to 103.4° F. None showed any signs of warmth or dyspnea. These temperatures were taken with a thirty-second thermometer, allowing it to remain in the rectum fifty seconds, and the record was made from ten to twenty-eight minutes after the match was over.

It is well known that many factors, such as food, age, sex, race, external temperature, besides muscular work, are held to play a part in determining the body temperature. It would appear, however, that muscular work is the most important.

On the Proper Employment of Milk, Especially in Certain Diseases of the Skin.

L. Duncan Bulkley (*The Dietetic and Hygienic Gazette,* May, 1908) contributes an interesting and important paper upon the proper employment of milk in general medicine, as well as in the treatment of skin diseases. He demonstrates that the general inability of patients to go on and maintain a "milk diet" because it makes them "bilious," is due to no special fault of the milk itself being indigestible, but is rather due to a lack of proper appreciation of the physiology of digestion, and the administration of the milk at the wrong phase of stomach digestion. He shows the similarity of milk, in many ways, to chyle (formerly called "milk juice"), and asks, therefore, why can not milk be absorbed without the process of coag-

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ulation, caseation and subsequent digestion? As a matter of fact, at one time the intravenous injection of milk was recommended, whereby milk, like other digested components of the blood, was swept directly to the lungs. The problem, therefore, of proper milk administration, is to give it at such a time and in such a manner as to escape the acid and fermentative changes in the stomach during the process of digestion, and so avoid being curdled before it can be absorbed. It is definitely known that the stomach does not secrete gastric juice, except under the stimulation of food. After the stomach digestion has gone on for a certain period, the stomach is found empty, it loses its turgid color, becomes pale and flaccid, and its surface is bathed with more or less of an alkaline fluid, forming what is known as the "alkaline tide." This alkaline tide occurs at varying periods of time after the ingestion of food, dependent upon many circumstances; it may begin an hour or so after a very small amount of digestible food, or it may be delayed four, five, or even many more hours, after a very heavy or unusually indigestible meal, or with very weak or sluggish digestion. It is only when this "alkaline tide" is perfectly secured and utilized that the method of giving milk, to be here recommended, can be carried out.

The idea, therefore, is to give the milk alone, pure or diluted with boiling water, at the body temperature, just after the "alkaline tide" has set in, or during its continuance, and to avoid any food or substance that will call forth gastric secretion until after the milk absorption has occurred. Therefore, give no crackers, whisky, egg, etc., with the milk. The milk should be gently warmed to 100° F., never boiled, cream should never be added. Occasionally, if the digestion is sluggish, it is necessary to give pepsin or other digestives freely. In other cases, Bulkley gives full doses of bicarbonate of soda, half hour before taking the milk.

In eczema, particularly, the writer has seen the greatest gain from the right use of milk. Give the milk, at times, when the patient is in bed, an hour before breakfast, also one hour before the noon and evening meals. Milk is also serviceable taken later in the night, if wakeful or restless from itching, provided, no food or medicine will interfere with the exact operation. Acne cases do well on this milk dietary. The same can be said of cases with other cutaneous diseases, even in such a matter as excessive loss of hair, where there is a nutritive fault to be repaired; frequently, good effects are seen in severe or malignant syphilis.

Milk, when taken successfully on the plan advocated by this writer, does not interfere with the appetite for the following meal; on the contrary, it seems to stimulate the appetite, on physiological grounds: the process of secretion from the glands of the stomach and other organs depends largely upon osmosis and blood pressure. By the quick absorption of the milk, the pressure in the capillaries is increased, and a richer blood is also offered for the production of gastric juice, while a certain amount

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of nervous relief is also given, enabling a more adequate supply of nerve energy to the digestive organs.

Kernig's Sign in Infancy—A Study of 2,000 Cases.

John L. Morse (*Archives of Pediatrics*, No. 3, 1908) reports his observations on the presence of Kernig's sign in various conditions in 2,000 babies (infants under two years of age) in his private and consultation work during the past five years, also patients seen in his hospital practice at the Infants' Hospital during the same period of time. He says that Kernig read the paper in which he called attention to this sign before the St. Petersburg Medical Society, in 1882, but it was not published until 1884. Almost no attention was paid to it, however, until Netter published his paper in 1898. Many articles were written on the subject during the past few years, but interest has somewhat diminished in it lately. It was at first supposed that this sign was not only pathognomonic of meningitis, but that it occurred so much more frequently in the cerebro-spinal than in the tuberculous form that it was of value in the differential diagnosis between the two. It was soon found, however, that it was in both forms, and that it was sometimes absent, also that it was found in other diseases of the nervous system, sometimes in the acute infectious diseases, notably typhoid fever and pneumonia. It was noted in cerebral hemorrhage, meningeal hemorrhage, chronic encephalitis, hemiplegia, cerebral abscess and hysteria. It has also been found in uremia.

Kernig's sign consists in the inability to extend the leg fully on the thigh, when the thigh is at a right angle with the trunk, or to flex the thigh to a right angle with the trunk when the leg is extended on the thigh. Kernig originally made the test by having the patient sit on the edge of the bed with the legs overhanging, and then attempting to extend the legs. Others modified the test by attempting to have the patient sit up straight in bed, with the legs extended on the thighs. Osler, in 1899, called attention to the fact that the sign could be elicited as well with the patient lying on his back, by flexing the thigh and leg on the trunk. Kernig did not consider the sign positive unless the angle was 135 degrees or less. Others have placed the limit at 120 degrees, or even at 115. The measurement of the angle of the leg on the thigh is the most satisfactory. This sign is an involuntary manifestation, and is not due to pain. It should not be confused with the inability to extend the thigh, which is seen in sciatica. Sainton and Voisin claim that the sign is a reflex phenomenon resulting from the action of the excito-reflex cells of the spinal cord, under various influences.

Five hundred and seven of the babies examined by Morse were normal. No one of them showed a Kernig's sign. The others were suffering from a great variety of diseases, a list of which would be too long to publish

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in this abstract, numbering among them, however, typhoid fever, rickets, otitis media, adenitis, whooping-cough, etc. It was found that Kernig's sign is almost never found in infancy, either in health or disease, except in meningitis. It is found so rarely in other diseases at this age that its presence in an acute disease justified, as far as any one sign can, the diagnosis of meningitis. It is never present, however, in some cases, and in many others it is present only intermittently. It occurs with equal frequency at all stages of the disease. It has no apparent connection with the degree of intracranial pressure. It is more often present when the knee-jerk is increased than when it is diminished. It is of no value in the diagnosis between the tuberculous and the cerebro-spinal forms.

The Blood Changes in Meningitis Cerebrospinalis Epidemica, Meningitis Tuberculosa and Meningitis Purulenta Non Epidemica.

G. Zand (*Virchow's Archiv*, Band 192, Heft 1, 1908) was influenced to make a study of the blood in various kinds of meningitis for the purpose of determining what aid can be obtained from such examinations in making the diagnosis and prognosis of the several varieties of infection of the meninges. There has been published already a considerable literature upon the blood changes in epidemic cerebrospinal meningitis, the chief contributors being Williams, Altman, Rieder, Struempell, Von Jaksch, Koplik, Spill, Grawitz, Foster and Goeppert. For instance, Williams found in 32 cases 12 instances where there was a decrease in the number of leucocytes—an observation considerably at variance with the other observers. Altman and Rieder found a considerable increase in the number of leucocytes. Spill found 10,000 leucocytes to the c.c. in one case, and 15,000 in another case of epidemic meningitis, and 20,000 each in two other cases. Goeppert found leucocytosis in his series of ten cases, as did Foster. Koplik found an increase in the number of leucocytes in his 21 cases, ranging from 12,000 to 55,000 per c.c. So did Osler. Presser and Jez studied the blood from a qualitative point, as well as from a quantitative; they found that the polymorpho-nuclear neutrophiles preponderated, with a diminution in the lymphocytes, with a marked diminution in the eosinophiles. Tuerk claims that the leucocytosis of epidemic cerebrospinal fever is due almost altogether to the increase in the polymorpho-nuclear neutrophiles.

The writer gives the following literature on the blood picture in meningitis tuberculosa: Rieder found the blood normal in one case of tuberculous meningitis, a leucocytosis of 14,000 in a second case. Zappert noted leucocytosis of 11,000, with 1.5% of eosinophiles in a tuberculous meningitis case without fever. Limbeck counted leucocytes to 6,000 and 8,000 in his cases. G. Pick failed to find leucocytosis in two cases. Koplik, who studied cases of tuberculous meningitis in children, found a leu-

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cocyte count ranging from 20,000 to 25,000; a higher count in but one case; he claims that a higher count than 25,000 indicates some other kind of meningitis than the tuberculous. Tuerk notes a leucocytosis up to 20,000 in tuberculous meningitis.

The writer's cases number 10 cases of epidemic meningitis, in which the diagnosis was confirmed by the finding of the diplococcus intracellularis meningitidis of Weichselbaum; 2 cases of purulent meningitis which were *not* epidemic cases; 2 doubtful cases, where no lumbar puncture was made, but a provisional diagnosis of epidemic meningitis was in order, and 6 cases of meningitis tuberculosa. Of the 10 epidemic cases, 6 died; of the tuberculous cases, 6 died, and of the 2 doubtful cases, 1 died. These blood examinations were made at the same time every day, between 11 a. m. and 12 noon, shortly before meal time. Therefore, no question of digestion leucocytosis can enter here. The blood was taken from the lobe of the ear, which was cleaned with ether and punctured with a Franke needle. The red cells were diluted with Hayem's solution, and the white cells with a 1% watery solution of gentian violet, 1 part; glacial acetic acid, 1 part, and water, 100 parts. The stained specimens were prepared with Jenner's stain, with Ehrlich's triacid, and with Ehrlich's hæmatoxylineosin solution. It may be mentioned, also, that the percentage of hæmoglobin was estimated in these cases with the Gower's instrument.

These examinations showed that in both epidemic cases (due to the diplococcus of Weichselbaum), and in sporadic cases (due to the streptococcus), there is a leucocytosis up to 26,000 per c.c. during the height of the disease, with a leucopenia supervening towards the lethal termination of the case. The grade of the leucocytosis seems to have no importance as indicating the severity of the infection. This leucocytosis is a neutrophile increase, with especial increase of the polymorpho-nucleated neutrophile cells. In meningitis epidemica, streptococcica and diplococcica there is also an increase in the multinuclear neutrophiles, as in other acute infections, scarlatina, etc. It was noted, in the epidemic cases, that there was a decrease in the amount of hæemoglobin, as well as in the number of red-blood cells to the c.c.

In the tuberculous cases, it was found that the count of the white-blood corpuscles ranged from below normal up to 11,400 per c.c. This corresponded to the observations of Rieder, Zappert, Limbert and Pick. The lymphocytes showed a great increase in the differential count, as well as the transitional forms and the uninucleated cells. The count of the red cells was normal, or slightly above normal. The hæmoglobin estimation showed a diminution below the normal.

Of what value are these observations from a diagnostic or prognostic viewpoint? Simply this, that a high grade of leucocytosis, in a disputed case, would tend to rule out the possibility of the case being tuberculous. Again, leucocytosis in epidemic cases, followed by a decrease in the num-

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ber of white cells, followed then by increase, and then by a decrease amounting to leucopenia, would point to an unfavorable ending of the case. In fact, the blood picture, as in many cases, must be considered as a symptom in meningitis cases, and must be so weighed in the balance.

A Study of the Conditions that Require the Removal of the Child from the Breast.

Charles B. Reed (*Surgery, Gynecology and Obstetrics,* May, 1908) says that the removal of the child from the mother's breast may be necessary on account of a great number of untoward states, either on the part of the mother or the child, or both. It may be demanded on account of changes in the milk itself, through chemical action, or through the presence in the milk of foreign substances which have been taken in by the mother, or which occur as a result of changes in environment, or changes due to local or systemic diseases, or from anatomical variations in either mother or child.

The transmission of medical substances ingested by the mother through the milk into the organism of the child is an interesting one, and yet, withal, observations of real accuracy upon this point are meager and scattered. The question, academic though it be, of whether medicines which are intended for the child can be given to the mother, and pass over through the medium of the milk into the child, deserves scientific consideration. Certainly, there are enough observations upon the disturbance of the child fed on the milk of a mother who is imbibing alcohol, which seem to need but little additional confirmation on account of the supposed number of observations on this point, yet experimental testing of the milk in women imbibing alcohol showed little, if any, present in said milk. Opium and its derivatives are also said to pass over into the milk and cause serious disturbance in the child, yet actual proof of this fact has seldom been deduced. Morphia, given to a lactating goat, did appear in the milk, yet Fudini and Cantu gave 0.02 grams of morphia muriate hypodermically to each of four dogs that had recently whelped, and chemical analysis of their milk failed to reveal the presence of morphine. Atropine and belladonna are commonly supposed to be agents that pass from mother to child through the medium of milk, yet Fehling gave enough to dilate the pupils of the mother without getting any positive result from the nursling. Fubini and Bonnani, however, in a series of fifteen experiments, got positive results, which would seem to definitely establish the truth of this belief that atropine does go over through the milk of the mother. It may be mentioned, also, that the use of belladonna, as a means of drying up the milk, should be dispensed with altogether, since it has been well demonstrated by Storss that, even if it had such an effect, it is wholly unnecessary, since excellent results follow expectant treatment.

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Thiemich denies that chloral hydrate will get into the child through the mother's milk, but other writers have noted somnolence in the child when nursing, shortly after the mother was given chloral hydrate. Although no chemical proof is at hand, Scanzoni noted the sleep-producing effect of chloroform inhaled by the mother on the child which was put to the breast three hours later. Observations upon the effects of ether inhaled by the mother, as to passage into the milk, are valueless. As for quinine, a remedy that a great many consider passes into the milk, scientific observations have shown this not to be true, unless it is given on an empty stomach. For the child's sake, therefore, if quinine must be administered to the mother, give it on a full stomach. Definite proof, by chemical means, has been obtained in the case of salicylic acid passing through the milk of the mother. This is also true of potassium and sodium bromide. Antipyrine was also found in the mother's milk. Phenacetin passes out of the mother in the urine as phenetidin, through the milk as acetphenetidin. Also the derivatives of the same go over, which is important from a therapeutic standpoint. Mercury has seldom been demonstrated in the milk of women or animals. Only when an animal has been given mercury up to a point of ptyalism has it been thus demonstrated. Iodine and its preparations are readily excreted by the milk. Koplick demonstrated a potassium exanthem upon a child nursing a mother who was taking potassium iodide. Arsenic ought to be used with great caution for nursing mothers, as it is one of the few drugs that constantly pass over in the milk. There is a widespread idea that mothers should not eat acidulous fruits, because acids are supposed to go over in the milk, yet this has never been conclusively shown. It seems true that lead goes over in the milk, as Bouquet points out a case where a woman worked in lead constantly during sixteen lactation periods, and each of the babies died in convulsions during these periods, except the last. With this child, health began to fail until it was removed from the breast, whereupon recovery ensued.

Among the anatomical causes which constitute grounds for removing the child from the breast may be mentioned inverted nipple, facial paralysis due to forceps, hare-lip. It is not necessary to remove the child on account of "tongue tie," because, in nursing, the baby does not draw back the tongue. Neither is it necessary to divide the frenum in these cases, because it is both useless and dangerous. Other causes are abrasions and injuries of the nipple and breast, due to the very act of nursing. These injuries often lead to fissure, from fissure to infection, abscess and all its consequences.

Primary tuberculosis of the breast would forbid nursing, as the bacilli, of course, go out in the milk. Anemia, in any form, would demand removal of the child. Return of the "periods" often means deterioration in the milk. This would affect the child. Again, the sequential injury is

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far more likely in such cases to fall on the mother, owing to the additional drain on her system, and it might be necessary to remove the child on *her* account. New pregnancies usually demand removal of the child. The quality of the milk is sometimes influenced by the emotions, fright, anxiety or excessive joy. Albuminuria, which does not seriously affect the health of the mother, would not influence lactation very much. Osteomalacia imperatively demands removal of the child. Uncompensated heart lesions, likewise, demand removal of the child.

In general, it may be said that in every form of germ infection the child should be removed from the breast, since the bacteriæmia is quite liable to infect the milk. This includes tyhoid and cholera, pneumonia, streptococcus and staphylococcus infections, etc.

THE "FOWLER-ROBINSON POSITION."

Over a dozen years ago Byron Robinson began publishing the results of his original investigations on the peritoneum. He was especially interested in its histology and physiology.

To disclose the function of the peritoneum, he experimented on some two hundred dogs and other animals. Byron Robinson's interest centered in the idea of the lymphatics of the peritoneum, where the significant areas of peritoneal absorption or exudation are located. At the conclusion of his experiments he published his book on the "Histology and Physiology of the Peritoneum," now recognized and known as a classic. This book records that Byron Robinson repeatedly demonstrated that the enteronic and diaphragmatic areas of the peritoneum are the special areas of absorption (not exudation), and that the colonic and pelvic areas of the peritoneum are the special areas of exudation (not absorption). Hence, ten years ago Byron Robinson demonstrated by scores of animal experiments that the diaphragm and enteron are the dangerous areas of peritonitis (absorption), and that the colon and pelvis are the safe areas of peritonitis (exudation).

Dr. Fowler wrote and advocated that Byron Robinson's experimental labors on the peritoneum had demonstrated its localities of greatest absorption and greatest exudation, and hence suggested that since the diaphragm and enteron are the most absorptive (and least exudative), and the colon and pelvis the least absorptive (and most exudative), he suggested the placing of his post-operative peritonitis subjects in an inclined position, so that excessive sepsis would not stream through the diaphragm and overwhelm the patient. Incidentally, some writer eponymized it as the Fowler position.

Since the medical profession well know that Byron Robinson's experimental investigation on the peritoneum were the bone and rock on which the so-called Fowler position was founded, I propose that he share in the credited honors, and this inclined post-operative position be called the *"Fowler-Robinson position."*

T. B. Wood, M. D.

Chicago.

—*Milwaukee Medical Journal*, April, 1908.

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EDITORIAL

THE POLITICS OF MEDICAL ORGANIZATIONS.

It has been often said that of all despicable politicians, the medical man is the worst, either when he delves into party politics, or when he is "wire-pulling" in medical organizations. It would seem that this statement is not far wrong when one surveys the follower of Hippocrates in this most unbecoming rôle. In the first place, it is easy to comprehend the remarkable ease with which a select few obtain the power-behind-the-throne influence that constitutes successful politics, and it is equally easy to discern how such an influence can be successfully maintained and wielded, even though the men that hold this "big stick" privilege are condemned and execrated by the general body politic, until such a time arrives that this smoldering, dormant indignation bursts forth into the fierce flame of drastic action, with decapitation of the politician, and the arising of another who eventually becomes equally as obnoxious, meeting, in turn, with *his* fall from grace, and so on, *ad infinitum*. Serious-minded medical men primarily organize themselves into bodies for the purpose of improving their knowledge and ability to cope with disease by frequent meetings, where views may be exchanged and experiences related, mistakes narrated, and others thereby prevented. In short, these bodies are constituted for the purpose of mutual exchange of ideas for naught but educational purposes. How soon, though, does some one, or a few, seize upon the splendid opportunity to wrest the power to govern these bodies from the hands of the serious students who are engaged in deliberating upon the purely professional questions before their organization, using this power, so covertly obtained, either for their own aggrandizement or for the purpose of punishment; or, to be more courteous, to "discipline" those who have been unfortunate enough to incur the displeasure of this select coterie of politicians, self-constituted and self-elected! Before the real hard-working members of the organization realize it, they are bound hand and foot by the politicians, who elect officers, and declare for certain policies, which are straightway enforced. One would naturally think that this state of affairs could not possibly exist for a very long time, inasmuch as the votes of the outraged majority would speedily sweep these barnacles away, and restore the balance of power to this self-same majority. The peculiar characteristics of the professional mind, however, explain why these politicians are *not* speedily deprived of their power, and how they are perpetuated in office, regardless of the general feeling that they have no business to convert the organization into a political machine. The professional man, as we have said before, attends

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these meetings with the sole idea of improving his knowledge and ability to practice his profession. As long as he can do this, without hindrance from the politicians, he is, apparently, apathetic as to who is running the executive side of the association, and equally nonchalant regarding the general working policy of the "politician-governors." He argues to himself that he has enough to do to prepare papers and discussions and keep abreast of the times, without dipping into politics; in short, he is occupied solely with the view of perfecting himself, so that he may be a better practitioner. The conviction is being forced home nowadays to the minds of all of us, that in this age it is a question of the survival of the fittest; that he who struggles and hustles will "get there," and that he who is a laggard will drop behind, and will be swallowed up in the whirling wake left by the hustlers who have gone before him. Therefore, to be one of the fittest to survive, the working medical man feels that politics is not for him, and he leaves this part of the game to the expert politician, paying the tribute of obeisance to the politician's will in consideration, first, of that parasite allowing him to pursue the even tenor of his way before the assemblies of his society; secondly, in consideration of the politician arranging for weekly, monthly and annual conventions of the organizations, at which the "subjects" furnish the speaking parts, while the rulers furnish the "thinking" parts, sitting upon the throne and looking wise. It is the same old gag that is met with in party politics: the business man "hasn't time" to go into politics; when he has a special personal measure to be put through he goes to the ward leader, pays him to put it through, and gets what he wants, apparently satisfied that this tribute is cheaper than going into the game himself and electing honest men to sit in legislative halls, prepared to give everyone a square deal.

Now, what does the politician doctor get out of it? Why, bless your soul, he gets a great deal out of it. In the first place, he gets a chance to smash some doctor that he doesn't like; an opportunity to put some doctor out of business who has, perhaps, criticised the regal rule of the said politician, or perhaps has unsuccessfully led some forlorn hope to put him out of office. To the politician's heart, this feeling is akin to the nature of the wild beast, when he gloats over the prostrate form of some weak member of the jungle family, his jaws dripping with blood, and his eyes sparkling with the joy of conquest. Again, the politician-doctor has a splendid chance to get a real politician's job. He orates before his medical brethren on what they should do to make themselves a factor in politics; incidentally, as he is their leader, when they do make a spasmodic attempt to become factors in ward or State politics, the political powers go to this politician-medical leader and buy him off by giving him a medical appointment of some kind. Now this does not, necessarily, always mean a medical appointment that has a lot of "graft" to it; it may simply mean an appointment, say, to the position of "surgeon-general on the govern-

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or's staff," or "president of a milk commission" or "member of the board of managers" of this or that institution. It matters not what the position may be; it all amounts to a flattery of his biased soul, and a salve to his pin-head mentality. And it is a matter of dollars and cents, too; the advertisement that he gets in the public prints by virtue of his official position brings him in patients from those poor, deluded souls who think because, forsooth, he stands high (?) in his profession, holding this or that exalted political position, he must be a world-beater as a practitioner of medicine or surgery. The lie is given to this misconception of the qualifications of the politician-doctor, for the very reason that he could not possibly be much of a doctor as long as he spends so much time in politics. Doctors who spend a great deal of time *at anything* outside of the pursuit of medical knowledge never know much about medicine, for daily, continual grinding is vitally necessary for even the most intellectual and best-trained men in the profession to keep them conversant with the duties and necessities and new methods of their professional calling. How much more, then, does it demand of the average, the man of mediocrity, the man whom we meet every day, the man who is doing the greatest amount of work in medicine today—for the average of intelligence is what constitutes the balance of working talent in any walk of life! Moreover, besides the natural, physical impossibility of being a good politician and a good doctor at the same time, we know, from actual observation, that those who stand highest (?) of all in either local, district, State or National medical organizations, are in 99% of instances merely men of limited capabilities as practitioners of medicine in their respective communities, not seriously looked upon as good men in their calling by their own local colleagues. This statement would seem startling at first thought, but you can prove it: if you are from California, and you have an exalted idea of the medical attainments of a medical leader in, say, the American Medical Association, who hails from Ohio, ask a half-dozen practitioners of that State what kind of a doctor that individual is who is always in the lime-light of the convention, and you will be dumbfounded to hear that he is a "lightweight" as a medical practitioner, but a "heavyweight" as a local medical politician. Careful inquiry of this sort will shatter many ideals, and will awaken food for thought, for these "heavyweights" are guiding the destiny of the profession before the lay minds, at least, and the truth or falsity of the doctrines expounded by them are being weighed in the balance by this same public. A thought that should come to the mind of every seriously-inclined medical man, therefore, is, are the doctrines and policies of these arrant politician-doctors to be promulgated as representative of the best thought of the medical profession, and are they the real mouthpieces of the medical profession, or are they not false prophets, these false and self-constituted leaders of medicine, proclaiming their own selfish desires and ambitions rather than those purely altruistic

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desires and doctrines which we have been taught for centuries belong to the humanitarian profession of medicine?

THE ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

The annual meeting of the American Medical Association, held in Chicago, June 2 to 5, 1908, was a banner one, from the standpoint of attendance and excellence of the programme furnished. As usual, the association divided itself into sections, and these sections held their meetings in different places simultaneously. Unfortunately, the meeting-places of the various sections required large halls, owing to the number of physicians in attendance, and it was, apparently, impossible, even in a metropolitan city like Chicago, to get enough large halls sufficiently close together to permit of easy access from one to the other. The consequence was that some of the meeting-places were so inaccessible that one had practically to content himself with dancing attendance upon the section meetings that were close together. This was rather severe upon those who wanted to take in the most interesting papers at different widely separated sections. The section on surgery and anatomy was probably the best attended of all; first, because of the excellence of the programme; secondly, because of the fact that this section held its meetings in Orchestra Hall, very convenient to the majority of the hotels, a very fine hall, with good acoustics and seating accommodations. It was noteworthy that the section on surgery was very well attended by the internal medical men and general practitioners. This is a good sign of the times, for it indicated that the general practitioner's interest in surgery is alive, and that he wanted to know just what the views of the surgical operators are upon many points. There is every reason in the world why general practitioners should be familiar with surgical conceptions, so that they may avoid that burden of censure that the surgeon is too often prone to visit upon the heads of these innocent practitioners of medicine. Surgeons are altogether too severe upon their brother medical practitioners in regard to conservatism in operations. It was, therefore, timely and proper for the practitioners to beard the lion in his den, as it were, and to see and hear just what the best surgical views of the day really are. There is no branch of medicine or surgery that can very well be completely and absolutely divorced from all the other branches, and so it is that a general viewpoint of the whole domain of medicine, such as can be obtained at a meeting of the American Medical Association by visiting as many section meetings as possible, will best repay one for the time and expense of attending one of these general sessions. From this standpoint it can be said that every medical man should seek to attend the section meetings of

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the American Medical Association as often as he can find time. There is pleasure and profit to be gleaned, both from hearing the papers and from social mingling with confrères from all parts of the country.

MATERNAL IMPRESSIONS AND HUMAN MONSTROSITIES.

The observation of the occurrence of human monstrosities for so many years has been accompanied by the promulgation of but little real scientific knowledge concerning their causation. Supernatural causes for the production of monsters, like the influence of the gods, celestial and diabolical, or lunar influences, as expressed in their name, monster or moon-calf, held sway for a long time, and are still believed by many ignorant people. The Greek naturalists and physicians ascribed them to natural causes, which belief was held up to the time of the Dark Ages, when there was pronounced the theory of monsters being due to the congress of women with beasts, *i. e.*, a hybrid theory, which was overthrown in the eighteenth century. The theory that has held sway for the greatest length of time, and that is still held, is that erroneous idea of the influence of maternal impressions upon the developing child. This theory was first attacked, from a philosophical standpoint, in the eighteenth century, by Blondel, and from a scientific standpoint by Haller. The theory of the influence of material impressions upon the formation of human monstrosities has been stoutly maintained up to the present time by many people, fostered in this country alone by obstetricians and gynecologists. It is astonishing that while American teratologists have been foremost in dispelling this unscientific notion, based purely upon coincidence and faulty observations, American medical men have been equally foremost, and practically alone, in maintaining and spreading this false doctrine.

The masterful work of Mall, of Johns Hopkins University, upon the occurrence of human monstrosities, based upon the study of a great many embryological specimens, and some experimental research upon the eggs of chickens, etc., will certainly mark a new epoch in our conception of these curious phenomena. Mall has lately published in book form his studies upon the causes underlying the origin of human monstrosities, and it would well repay every medical man to read this work.* He shows clearly that the question resolves itself into this: "Are the conditions which produce a monster germinal and therefore hereditary, or are they produced from normal germs by external influences?" He points out that, beginning with Meckel, who laid the embryological foundation for a scientific teratology, and the Saint-Hilaires, who made the first embryological experiments, we have the beginning of the development of the "mechanical" theory. Mall contends that *all monsters are produced by external*

* A Study of the Causes Underlying the Origin of Human Monsters. Third Contribution to the Study of the Pathology of Human Embryos. By Franklin P. Mall, Professor of Anatomy, Johns Hopkins University, Baltimore, Md.

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influences upon normal ova which affect the nutrition of the embryos, due to faulty implantation of the ovum. He says, "that the power to become a monster is present in every ovum is fully demonstrated by experiments upon a variety of vertebrates, as well as by all of my pathological ova, especially those obtained from tubal pregnancies." He says, further, that the changes found in the chorion repeatedly are, no doubt, primary; they are usually of an hemorrhagic nature, often indicating inflammatory changes in the uterus. He recommends this as a fertile field for investigation by gynecologists and obstetricians. These changes interfere with the attachment of the ovum, and this condition, and what results from it, constitute what Mall means by "faulty implantation."

There can no longer be any doubt that there is a scientific basis for a disbelief in the factor of maternal impressions as causative of the monster-formations met with in the human family, and there is equally no doubt that Mall is on the right track when he calls attention to those outside influences that affect the ovum as resident in the uterus and its adnexa. Perhaps more accurate observations on the part of the practicing medical profession will enable us to open up some avenues for the inauguration of some preventive means looking towards the conservation of the normal fetus from the beginning of its intrauterine life until its full development at term. At least we may be able to do away with those fetal deformities that are due to "outside" influences. There is, apparently, no hope of ever preventing the abnormalities of development of the fetus, due to "germinal" tendencies, those cases which may be called, strictly speaking, exclusively "hereditary," which are due to taints and conditions impossible to prevent.

Semper paratus is the motto which the physician should keep constantly pasted in his hat. *The Critic and Guide* well observes that we make but a sorry spectacle if, when suddenly confronted with a case of syncope, uterine hemorrhage, biliary or renal colic, we have not about us the necessary agents to give relief. One can write a prescription, but while it is being filled much valuable time is lost; when the emergency is at night an hour or two may be thus consumed. The experience of a colleague is instanced who had been called to a distressing case of angina pectoris at night. He would "willingly have given $100 for a pearl of amyl nitrate at the time."

MENSTRUATION continued undisturbed, states Zacharias (*Centralbl. f. Gynäc.*), several years after the removal of both ovaries from three patients for non-malignant affections. In each case he left a small piece of the ovarian tissue.

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BOOK NOTICES.

A LABORATORY MANUAL OF INVERTEBRATE ZOOLOGY.—By Gilman A. Drew, Ph. D., Professor of Biology at the University of Maine; in charge of Zoological Instruction at the Marine Biological Laboratory, Woods Holl, Mass. With the aid of members of the Zoological Staff of Instructors at the Marine Biological Laboratory, Woods Holl, Mass. 12mo. of 201 pages. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $1.25 net.

DISEASES OF THE INTESTINES AND PERITONEUM.—By Dr. Herrmann Nothnagel, of Vienna. Edited, with additions, by H. D. Rolleston, M. D., F. R. C. P., Physician to St. George's Hospital, London, England. Second edition. Octavo of 1059 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $5.00 net; half morocco, $6.00 net.

TREATMENT OF THE DISEASES OF CHILDREN.—By Charles Gilmore Kerley, M. D., Professor of Diseases of Children, New York Polyclinic Medical School and Hospital, etc. Octavo volume of 597 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $5.00 net; half morocco, $6.50 net.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR.—By E. Baldwin Gleason, M. D., Clinical Professor of Otology at the Medico-Chirurgical College, Philadelphia. 12mo. of 556 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Flexible leather, $2.50 net.

PRACTICAL FEVER NURSING.—By Edward C. Register, M. D., Professor of the Practice of Medicine in the North Carolina Medical College. Octavo volume of 352 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1907. Cloth, $2.50 net.

CLINICAL NOTES.

THE PERIODICAL NERVOUS HEADACHE.

Periodical headaches are very common among the young, and are three or four times more common among females than among males. They manifest themselves about the time of puberty and remain as occasional nerve-racking disturbers until the subject has passed the age of fifty years.

Antikamnia tablets are especially indicated in this condition. The bowels should be kept open and the use of diuretics advised. The adult dose of Antikamnia best suited for this condition is two every three or four hours.

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Sunshine and fresh air contribute wonderfully to convalescence, and this season is particularly well blessed with a good share of it. It is a fact that the average nerve-racked convalescent is more or less irritable, and in order that the beneficial results of fresh air and sunshine that the rolling chair used out of doors affords may not be offset by faulty construction and poor mechanism, it might be well to examine more of the quality points of chairs that have won the approbation of the profession. H. F. Erlebach, of Hammond, Ind., makes an improved reclining rolling chair that incorporates all that can be wished for in a perfect invalid chair. The frame is of oak, finely finished and polished. The back, seat and leg-rest are fitted with veneer, or the finest open cane webbing. The reclining attachment is the simplest

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A DERMATOLOGIST ON BABY POWDERS.

Prof. J. M. Winfield (*New York Medical Journal*, March 21) says, relative to powders in eczema in children: "Most mothers and nurses use talcum powder for dusting; the only objection is that it is apt to roll up in lumps; this can be prevented if the powder is thinly and evenly distributed. The oxide or stearate of zinc, with or without bismuth, is useful. A commercial powder called Pulvola, which is said to be a zinc preparation (magnesium stearate), fills the requirements of a dusting powder better than those mentioned."

OXYDENDRINE, A NEW REMEDY FOR EDEMAS OF VARIOUS CAUSES.

One of the new remedies for the treatment of edema, anascarca or ascites, as you will variously hear it called, is a product called Oxydendrine, manufactured by the Oxydendrine Chemical Company, of Chattanooga, Tenn. It is composed of oxydendrum, iris, squills and sambucus, framed with a view to the highest efficiency of these drugs. It seems that the makers of this preparation have met with a happy combination in putting Oxydendrine together, for its clinical use in the different cardiac and renal conditions in which it is indicated has been followed by encouragingly good results, It seems to promote elimination and lessen the burden upon the heart and general vascular system—a *sine qua non* in dealing with such conditions. It seems to reduce engorgements in the lungs and liver and kidneys, thereby removing one of the serious stumbling-blocks in the treatment of these systemic disorders. For dropsy due to heart disease or kidney trouble, give one tablet of Oxydendrine before each meal and at bedtime. Where the effusion is large and symptoms urgent, give two tablets at a dose three or four times daily, and free morning purgation with salts. In mitral diseases with edema, a tablet before meals and at bedtime is usually sufficient to bring about compensation and relief of the distressing symptoms of difficult breathing, etc. This preparation should be used rationally, increasing and decreasing the dosage as the condition demands it. There should be no empiricism about its usage. In this way, its users can be confident that they will obtain good results in indicated cases.

ABSORBENT LINEN IN SURGERY.

Absorbent linen is now attracting the attention of the surgical world because it has certain advantages which the medical profession can not afford to ignore. An ideal surgical dressing is found in Oxolint, which is a product of pure flax. It is made by the Oxford Linen Mills, of North Brookfield, Mass. It is prepared in packages which are aseptic and antiseptic. It resembles absorbent cotton in appearance, but it is more absorbent, does not mat, does not deteriorate with age, is less fuzzy and freer from adhesive particles. It has been a matter of great difficulty to successfully utilize flax in such a way as to develop these desirable properties, but the manufacturers of Oxolint have finally succeeded, after a number of years of experimentation. Moreover, it can be purchased at the same price as absorbent cotton. Samples and full literature will be sent upon application to manufacturers.

MECHANICAL SUPPORT IN CASES OF SPINAL CURVATURE, DUE TO TRAUMATISM.

At a meeting of the National Association of United States Examining Surgeons at Washington, the above subject

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was discussed at length, and the following points brought out: That in every case of injury to the bony or soft tissues, near the spinal column, a spinal support should be used as early as practicable, or some form of spinal deflection is almost sure to follow as a result of loss of bone, when a portion of the rib has been carried away, for instance, and also by reason of cicatricial formation and the binding down of the soft tissues near the spine, and consequent atrophy of muscles in this locality. When deflection has already occurred, a spinal support should be used, to prevent further deformity, and to overcome this condition. The brace used should be light in weight, comfortable, and made to fit the individual case perfectly, so constructed as to give firm longitudinal support from the iliac crest to the axillæ. A brace covering these indications has been furnished to many of the soldiers and sailors of the army and navy through the Surgeon-General's office, and has given satisfaction in every case. This support is made by the Philo Burt Mfg. Co., of Jamestown, N. Y., and information will be furnished to any surgeon desiring it by writing this company at its home office.

TO CORRECT AN ERROR.

The manufacturers of Coca-Cola, the widely used soda fountain drink, are using space in the leading medical journals to assure the profession that there is no harmful ingredient in their preparation. Their purpose is not to try to induce doctors to prescribe or even to use their preparation, but many false and malicious statements have been made concerning it and they desire to let the conservators of the public health, the physicians of the country, know that their patients or themselves can not only *not* be injured by Coca-Cola, but, on the other hand, may find its proper use to be beneficial to health as well as agreeable to the palate. To this end, their advertisements in the June medicals carry copies of an analysis of the syrup from which the beverage is prepared, made by Dr. Louis Schaefer of Maywood, N. J., a chemist of world-wide reputation, which shows that it contains no alkaloid except a small quantity of caffeine, which but substantiates the claims of the manufacturers. The example of the manufacturers of Coca-Cola in making this frank statement to the physicians of the country might be emulated by other manufacturers of food and drink products, with profit to themselves and benefit to the public.

NOITOL IN SKIN DISEASES.

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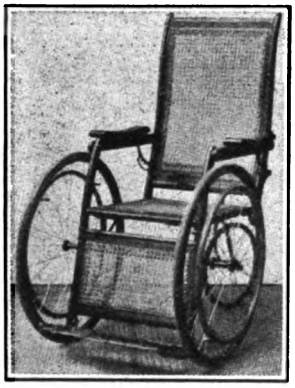

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plasm, and, while antiseptic, is not so much so because of its immediate destruction of bacteria as by reason of its astringent and sedative action on inflamed areas, thus making the tissues attacked less favorable locations for the growth and propagation of germ life. Its styptic action, which is specially marked in capillary hemorrhage, or bleeding from small vessels, is accomplished by both contraction of the vascular coats and an increase in the coagulation of the blood.

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., AUGUST, 1908. No. 8.

THE SURGERY OF BLOOD-CYSTS OF THE SUPRARENAL BODY.

BY ALBAN DORAN, F. R. C. S., England.

Senior Surgeon to the Samaritan Free Hospital, London.

[Written for the MEDICAL BRIEF.]

Hemorrhages in the substance of the suprarenal body are well known to pathologists and physicians. They have been detected in necropsies of children who have died suddenly during a fit of coughing. Twenty years ago Dr. Herbert Spencer, now obstetric physician to University College Hospital, London, collected 130 reports on necropsies on stillborn children, all under his own observation, in the maternity department of that institution. In fifty-three cases either congestion or hemorrhage was detected in the suprarenal bodies. In twenty-four the bleeding lay in the medullary portion, and it was found that delivery by the lower pole, especially when traction is employed, distinctly favors this form of injury.

We may assume that many children survive these medullary hemorrhages, especially if unilateral. If so, may not further morbid changes develop in the suprarenal body damaged so early in life? Under what conditions may these hemorrhages begin in the adult? We know better how they may end. There is a class of tumors known as blood-cyst of the suprarenal body. Henschen and others have written on it. Indeed, as will be seen, it was recognized by the clinician, as distinguished from the pure pathologist, long before the days of abdominal surgery.

The blood-cyst is to the surgeon the most interesting form of cystic tumor known to develop in the suprarenal body. I have collected nine cases, including one in my own operative experience. My patient was a woman, sixty-two years of age. She had been subject for ten years to epigastric pain and for several months to sharp attacks of pain, referred to a firm, oval tumor in the left hypochondrium. The upper part lay under the ribs, but the tumor could be pushed downwards till the upper pole was entirely below them, and then there was resonance on percussion over part of its anterior surface. The patient was fairly well nourished, with a ruddy complexion, free from bronzing. The epigastric pains appeared to be due to dyspepsia, caused by excess in tea-drinking, so common amongst the poor of London. I removed the tumor in October, 1907, opening the abdomen through an incision along the outer border of the left rectus.

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The peritoneum external to the descending colon covered the tumor. It was laid open, and then the tumor was enucleated with ease. Some large vessels ran into its inner limits above; they were secured. The aorta lay internal to the tumor, and I found the left kidney also on its inner side and mainly below it. The patient recovered, and was well six months later. The tumor was smooth externally and of a deep bronze-red color. It was unilocular, and contained about half a pint of bloody fluid. The wall was uniformly thick and soft. It appeared homogenous on section. When, however, I took the specimen to the College of Surgeons, Professor Shattuck found that it contained islets of adrenal tissue, in a stroma of pure fiber without any plain muscle cells. Adding to this histological evidence the relations of the tumor detected at the operation, it became clear that the cyst had developed in the left suprarenal body. The relatively large vessels which I secured were the suprarenal artery and vein. It happened that I removed this cyst just eleven months after I performed nephrectomy for adrenal tumor of the right kidney in a patient who also had a secondary adrenal tumor in the vagina, and I recently reported the case in THE MEDICAL BRIEF. I may add that Dr. R. Freund, of Halle, has published a second instance of secondary adrenal vaginal tumor, in the ninth number of *Zentralblatt für Gynäkologie* for this year. Thus my attention was turned to adrenal new growths, and I had the advantage of the opinion of so distinguished a pathologist as Mr. Shattuck, who examined both the hypernephromas of the kidney and vagina recorded in these pages, and the cystic tumor, the subject of the present communication. Eight more cases of blood-cyst of the suprarenal body have been reported. The first, undoubtedly genuine, was carefully described over two centuries ago by Griselius, of Leipzig: "A certain nobleman" was troubled with colicky pains, and treated his medical advisers "most contumaciously." He died from rupture of an abdominal tumor, a big cyst extending from the diaphragm to the psoas, which replaced the left suprarenal body. There was a rent in its wall, and the peritoneal cavity contained fourteen pounds of fluid blood and clots.

Rayor, of Paris, over twenty years since attended a woman, aged seventy-five, and lame in the right leg. She had frequently fallen, striking the right side, and became distressed by severe pains in the region of the right kidney. A big tumor, not tender to touch, filled the right flank. The patient died in hospital, and the tumor was found to be a cyst, full of liquid blood, occupying the site of the right suprarenal body.

A very fat man, over sixty, died in hospital of heart disease. During his lifetime the tumor was overlooked. Chiaki discovered after death a cyst, as big as an adult head, full of blood, replacing the right suprarenal body. The walls contained adrenal tissue.

The fifth case of blood cyst was under Routier. The patient was a woman aged thirty-five, troubled for three years with epigastric pains and

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vomiting. A tumor was discovered in the left hypochondrium. It was exposed through a median incision, opened, emptied of 1,600 grams of brown fluid, and drained; the cyst-wall sutured to the edges of the abdominal wound, the sutures cut through. The cyst receded, and the patient died of peritonitis. The tumor was found, on post-mortem examination, to replace the left suprarenal body, and its walls contained adrenal tissue. That case is instructive, as it shows the danger of applying sutures to the wall of a tumor of this kind. The tissue is very soft, and weakened by the application of sutures. Of course, the operator had not the advantage of the previous experience of others.

Pawlik's is worth quoting, on account of a clear history of injury. A woman, aged forty, came under his care for a large, elastic, fluctuating tumor in the left side of the abdomen. Two years previously she had fallen from a ladder. Pawlik removed the cyst by enucleation, leaving a small piece of its wall on a kind of pedicle, close to the vertebral column. He found the kidney on the inner side of the lower pole of the cyst. The wall of the cyst contained islets of adrenal tissue, and a small portion of the suprarenal body itself unaltered. There were seventeen pints of bloody fluid in its cavity. The patient recovered.

The seventh case of blood cyst was reported by Triepcke and Bier. A woman, aged sixty-nine, was admitted into hospital, with a tumor of the size of an adult head, filling the right side of the abdomen. It was exposed and tapped; three and one-half pints of turbid fluid, with coagulated blood, came away. The inner wall of the cyst, seeming very unhealthy, was curetted and the cavity drained. The patient died of "shock." After death, it was found that the cyst was easily enucleable. It occupied the place of the right suprarenal capsule, and adrenal elements were discovered in its wall. The right kidney was displaced downwards, lying in the right iliac fossa. Unfortunately, the original and full report of this interesting case is not very accessible. It is otherwise with Henschen's good monograph on *Struma supernalis cystica hemorrhagica,* the name which he applies to these blood cysts of the suprarenal body, which will be found in the forty-ninth volume (1906) of the "Beiträge zur klinischen Chirurgie." The whole subject is well reviewed, and all cystic diseases of the organ in question taken into consideration. Henschen includes an original case where Krönlein operated. The clinical history is complete in the extreme. The patient was a woman, aged forty-one, subject to attacks of pain in the left hypochondrium for twenty years, beginning with an attack of pleurisy. A big, tense, smooth tumor was detected by her doctor when consulted for an attack of rheumatism. It pushed the lower ribs outwards. Krönlein tapped the left pleura, and much chocolate-colored fluid came away; then he boldly operated through an oblique abdominal incision, and succeeded in enucleating a big cyst, which also contained chocolate-colored fluid. He had to separate the cyst-wall from adhesions at the diaphragm and tail of

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the pancreas, and to tie the inferior mesenteric vein, accidentally divided. The patient died on the fifth day. There was an old-standing disease of the thoracic viscera. The cyst had occupied the site of the left suprarenal body, the right suprarenal body was hypertrophied. The cyst-wall contained adrenal elements. This case deserves study in the original monograph, the remarkable association of the blood cyst with an old hemothorax is most noteworthy.

McCosh, of New York, is the first surgeon of the Anglo-Saxon world who has ever knowingly operated on a blood-cyst of this class. His patient displayed one unique symptom, Addisonian bronzing of the skin, which disappeared after removal of the tumor. The patient was a woman, aged forty-five, subject for three years to dull pains in the left loin, with acute, lancinating attacks from time to time. The loin was distended by a smooth, fluctuating tumor. It was completely and successfully enucleated and contained nine pints of dirty, yellow fluid. The operation was difficult, owing to universal adhesions, involving the aorta and vertebræ. The left kidney was displaced very low. The cyst-wall was thick, and contained adrenal elements. I leave it to the physiologist to explain why the bronzing disappeared during convalescence.

I may here mention a specimen of a retroperitoneal cyst now in the museum of St. Bartholomew's Hospital, London. I have inspected it, and it appears to the naked eye precisely like my own tumor and like the colored drawing of Krönlein's case in Henschen's monograph, but no adrenal elements have been found in its walls. Perchance they have been overlooked. Professor Shattuck could not find adrenal tissues in the tumor which I removed until after much searching into sections. This doubtful cyst was taken ten years ago by my friend Mr. Lockwood, from a girl, aged twenty. There had been a painless swelling in the left loin, growing slowly for two years. When fresh it was as big as an ostrich's egg. Enucleation was unattended by any difficulty, though the end of the duodenum adhered to its inner side. The kidney and ureter lay below the cyst. The patient, Mr. Lockwood informs me, is still living. Let it be noted that the contents were described as altered blood clot. I know of three cases of genuine retroperitoneal cysts (Monprofit, Bowlby, Bantock), undoubtedly, I believe, of Wolffian origin, and I assisted twenty-two years ago at the removal of Bantock's tumor. It is preserved in the Museum of the Royal College of Surgeons of England. It is very thin walled; indeed, it looked like a mass of soap bubbles behind the peritoneum before removal, and it is multilocular. I can testify that it did not bear the least resemblance to the thick-walled, opaque, deep red unilocular cyst which I removed from above and in front of the left kidney last October.

I need not enter into the pathology of these tumors, for information about new growths of the suprarenal body may be found in the archives of the Johns Hopkins Hospital, in recent volumes of the "Transactions of the

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Pathological Society of London," and in Henschen's writings to which I have referred. Nor can I dwell on solid tumors of the organ under consideration. Mayo Robson has related his experience of their surgery. But any cyst of this organ is to the surgeon a tumor which he will endeavor to remove independently of its pathology. Therefore, I must not pass entirely over Ferrier and Lecene's report of the partial removal from the left loin of a fluctuating oval tumor of the size of an ostrich's egg. The patient was a woman, aged fifty-two. The cyst-wall was thin and contained, it was afterwards found, adrenal tissue; the contents were a lemon-colored fluid. The operator, M. Ferrier, so recently deceased, suspected during the operation that it was pancreatic, and therefore left its deepest portion alone, passing in a drain. The patient had an attack of right parotiditis on the sixth day, but recovered. I suspect that the cyst was of the lymphatic class. It is highly improbable that it was originally a blood-cyst, a type where the walls seem to be always thick and soft and the contents very characteristic. Obendorfer, Marchetti and Bosanquet have reported cases of cystic tumors of the suprarenal body, not of the hemorrhagic type, accidentally associated with diseases which brought the patients under the care of the physician. All these tumors might, under more favorable circumstances, have been successfully removed by the surgeon, but let it be remembered that Marchetti's cyst adhered to the vena cava, a condition which I have observed in solid tumors.

The above records show that blood cyst of the suprarenal body is a very definite form of tumor, so much so that when we remember how little was known till quite recently about the diseases of that ductless gland, and how even now adrenal tissue may be overlooked in microscopic research, we may safely conclude that many such cysts have come under the observation of surgeons, physicians and pathologists who have failed to recognize their true nature. Now that attention has been turned to these cysts, we shall certainly hear more about them.

The blood-cyst of the suprarenal body is associated, according to the above reports, with fairly definite clinical symptoms. A clear history of injury has been recorded in two cases, while in at least six there were painful sensations in the upper part of the abdomen and loin, with occasional sharp pains when the tumor attained large proportions. Bronzing was only seen in the American case.

The tumor forms a more or less movable body in the loin. I can not say, judging from my own case, that we have enough experience to aid us in distinguishing it, by palpation alone, from a tumor of the kidney. The clinical history, as summarized above, is that of many a case of hydronephrosis. Rayor's patient had hematuria, a most confusing symptom in days before the cystoscope. That instrument, when employed in my own case, rather misled me, as a little turbid urine could be seen issuing from the left ureter.

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We may feel more confident, however, about the best surgical treatment. The abdominal incision, outside the rectus, allows the operator to reach the cyst with facility. The softness of its walls is a distinct objection to "marsupialization" with drainage, as Routier's case teaches us, while in several instances where it has been practiced with fatal results, the pathologist found that the cyst might have been removed entire with ease.

In fact, the removal of a cyst of said kind is generally easy, although never without danger. Should the surgeon take it for a renal tumor, a very probable error, he might be induced to compress the tissues on its inner side with a big clamp, with the object of securing the renal vessels. In such a case, if the cyst were on the right side the vena cava might very easily be damaged, and if on the left side the abdominal aorta would be in jeopardy. The above reports teach us how closely the cyst may be connected with those great vessels.

Enucleation, with the application of the pressure forceps to every vessel detected as the parts are put on the stretch, will generally insure the detachment of the cyst entire. The kidney will be seen when the posterior and lower part of the cyst is set free. The surgeon must be careful to ligate every vessel before removing the pressure forceps, especially those which run to the inner and upper part of the cyst-wall. For it is highly advisable to avoid oozing into the tissues, while it is all-important to secure the suprarenal artery and vein. The surgeon, however, may meet with perilous complications, as recorded in the above series.

When the suprarenal cyst has been removed, it is just possible that it may not be a blood-cyst. It is doubtful if the thin-walled cystic lymph tumors which have been successfully removed in several cases are malignant. The blood-cyst is not, strictly speaking, a new growth at all. Therefore, the prognosis after convalescence from the removal of a cystic tumor of the suprarenal body is highly favorable. It is far otherwise with tumors made up of adrenal tissue which develop in other organs, for, as recent researches have shown, they are extremely malignant.*

THE DIAGNOSIS OF BULBAR AFFECTIONS.

Ferreira (*La Presse Medicale-Archives of Diagnosis*, Vol. I, No. 1) says that weak or negative response to a small injection of apomorphine will enable the physician to detect bulbar paresis before it is clinically manifest. In this way glosso-labial-laryngeal paralysis may be detected, while incipient, by the degree of nausea and the amount of vomiting. The medulla oblongata will be found to be already seriously affected if there is no vomiting at all.

* See "Adrenal Tumor of Vagina Secondary to Malignant Hypernephroma of the Kidney," MEDICAL BRIEF, December, 1907. The author has discussed the subject of suprarenal cysts at full length in a monograph, "Cystic Tumor of the Suprarenal Body Successfully Removed by Operation," read before the Surgical Section of the Royal Society of Medicine, London, on June 16, 1908.

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THE OPEN-AIR TREATMENT OF TUBERCULOSIS.

By J. L. Eaton, M. D., of Bismarck, Mo.
President of the Board of Managers Missouri State Sanatorium for Incipient Tuberculosis.

[An address delivered before the Southeast Medical Association. May 6, 1908.]

Gentlemen: It is my purpose to speak in a general way only of the open-air treatment for incipient tuberculosis, and to recite a few brief facts in connection therewith, presuming that all agree that tuberculosis is a disease that should be dealt with in a rational, common-sense way, and on comprehensive and systematic lines. This disease holds a very special interest for every loyal physician, not merely to arrest or cure, but to eradicate and prevent it.

All success, individual, state or national, rests upon health, and the paramount duty of every true physician is to prevent, as well as to cure disease.

Health depends largely upon the amount and purity of air, the cleanliness of the home, and the quality and quantity of food.

Close bed-rooms make myriads of graves. We spend one-third of our time in bed, and yet how little attention is given to ventilation! Never is an expert in sanitation consulted in the construction of our modern homes, and the natural result is that we are not living so long as our grandfathers and grandmothers did. Once arriving at adult age, the average man or woman has but a few years of survival to expect; even during the past fifteen years the death-rate of persons over fifty has risen considerably, and this is directly traceable to our modern civilization—hot, illy-ventilated rooms, bad air generally. Bookkeepers, paperhangers, plasterers, in fact, all whose occupations require them to spend their time indoors in badly-lighted and poorly-ventilated buildings, have an unduly high death-rate.

Therefore, the large cities, with their crowded tenement districts, bad air, little sunshine, and poor ventilation, are the hot-beds for tuberculosis; the large cities are now furnishing about 92% of all incipient cases that are cared for at the various sanitoria throughout the country.

Since the start of the general crusade against tuberculosis we, who are more or less in close proximity to the fight, get comfort and find a new appeal in the results, as well as in the words spoken by ardent warriors who are struggling with the great white plague.

There has been a movement, or, rather, a concentration of ideas among professional men along the line of out-of-door life, within the past five years, that we ourselves are pleased, and, I might add, almost frightened by the tremendous shadow which we cast. We are not only exhibiting a healthy and conservative, but remarkable growth along this line, and are doing it in such a way as to influence thinking people everywhere. A new idea or system must justify itself by results; conservatism, or the

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unwillingness to welcome new things has its uses. Many new things are not good and die an early death, but those which push themselves forward by their own weight and merit, and force themselves upon the attention and consideration of the profession, are the unconscious production of experience and human wisdom, and necessarily attract that honest consideration which they so richly deserve.

The first duty of the physician is to the family and patients under his control or care. There is no higher duty or greater obligation than to preserve the family, which is the fountain of patriotism, as well as of virtue.

The crusade against the great white plague has deeply engaged the best thought of the best men on both sides of the Atlantic, and today we in America are arresting or curing about 86% of incipient cases of tuberculosis, that for hundreds of years has been the most feared, the most prevalent, and most fatal of all diseases.

Hippocrates, the most celebrated physician of antiquity, 440 years B. C., described pulmonary tuberculosis as the "disease which is most difficult to treat, and which proves fatal to the greatest number."

Profiting by the experience of observation, brilliant and brainy pioneers in this work, Trudeau, of New York, Brehmer and Detweiler, of Europe, and others, we have at the various sanatoria arrived at the most satisfactory solution of the problem of handling tuberculosis patients in the incipient stages of the disease.

Aside from the beneficial and actual results accomplished in a well-regulated and properly-managed sanatorium, the educational advantages stand as the most valuable part, for each patient is taught the daily life that must be led, and what is known about the disease and its cure, so that when he leaves the institution he is an enthusiastic walking, talking, teaching missionary in his respective community for open air, good diet and rest.

Missouri physicians are deeply interested in the crusade against the great white plague; a State's health is an integral part of that State's material wealth, and a very important factor in its happiness. Missouri is maintaining its position in the leading ranks of progressive States by establishing a State sanatorium for promoting the health of its citizens—the care and cure of incipient tuberculosis patients. It is located at Mount Vernon, at an altitude of 1,250 feet, and located in the Ozarks. The name, Ozark, is full of suggestion and significance. It suggests a congenial climate, and a tremendous area containing unmeasured natural resources. It suggests a people of virility and patriotism, hardy and thrifty, with energy and pluck unsurpassed anywhere. It suggests pure air and water, Nature's cure, for in the Ozark hills, water abounds possessing to the fullest extent the virtues and medicinal qualities that have made the foreign resorts famous.

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The Ozarks are Nature's picture gallery—views of the picturesque, the beautiful and grand, varied with forest, vale and mountain, in rare and unique combination. It is here in the open air that we have a delightful, salubrious and invigorating climate, with scenic attractions that rival the Adirondacks and the Alps, where it is the wonder and delight of all who are permitted to see its beauties, and where the invalids will be tempted to linger and enjoy at leisure the pure, refreshing, invigorating and balmy breezes, and, in fact, remain in cheerful, happy and prosperous contentment, and await complete recovery.

The splendid opportunities for incipient cases to recover in the open air of the Ozarks have, in the past, been overlooked, but those lost opportunities are now dim and shadowy in the throbbing fullness of an appealing present.

The Missouri State Sanatorium is a standing invitation to those unfortunates afflicted with incipient tuberculosis. Missouri physicians are responsible for this beneficent institution. The lives saved at this sanatorium are living trophies of our victories, and the joy, sunshine and happiness thereby restored to the homes of worthy Missouri citizens and anxious loved ones must furnish one of our best rewards.

The sanatoria for consumptives in this country extend from Rutland, Mass., to the Pacific coast, Texas and New Mexico, and, I might say, from the Northern Lakes to the Gulf. The U. S. Marine Hospital service, in determining a location for a sanatorium for consumptive sailors, selected Fort Stanton, in New Mexico, where for several years it has been conducted with a great degree of success.

What will cure a consumptive will surely not hurt a well man. It is easier to keep tuberculosis away from us than it is to get rid of it when we have it. Therefore, our most important and immediate method of fighting the plague lies in defensive rather than offensive warfare. Therefore, get the fresh-air habit. It may now be asserted that sleeping out of doors or in the open air is feasible and beneficial in all climates, and in all seasons. The person who does so does not catch cold, as the uninitiated always fear, but, on the contrary, he becomes almost absolutely immune from colds. To come nearer to it, did you ever catch cold sleeping in an open house or camping in a tent?

I can still vividly recall the astonishment with which I awoke in a woodman's cabin in Iron County one winter morning twenty years ago, with one inch of snow or more over the entire bed. I awoke without a sniffle, and with a feeling that I had been made new while I slept.

How we recall the healthy, massive, rugged pioneers of this country when the open log houses were in vogue, where Nature's ventilator, the big fire-place, prevailed, with open floors and loose planks for a loft, and the chinking out in many places! Pneumonia was at that time a rare occurrence, and tuberculosis was practically unknown.

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Whoever heard of a tramp having tuberculosis, whose bed is a slab or an old railroad tie, and whose covering is nothing less than the canopy of starry-decked heaven? Get the open-air habit, get the out-of-door habit. It takes time to acquire it, but when once formed you wouldn't exchange it for anything else on earth. You can not catch cold sitting in an open field or garden from an open gate. We do, however, catch colds when we crowd into hot houses and rooms, shutting the doors and windows, and thus provide a ready-made hothouse for the cultivation and transmission of bacilli of all varieties. It is in that way we "catch cold," and a constant succession of such colds implies a mode of life in which all ærial microbes are afforded abundant opportunities.

Open air or fresh air is essentially necessary under all conditions; let every breath or inhalation have no suspicion of ever having been breathed before, and, as a general rule, the colder the weather the better the patient likes it. In the Adirondacks, where every home is constructed for a consumptive home, they sleep out at from ten to forty degrees below zero, and derive marked benefit therefrom; plenty of warm night clothes, woolen sheets, warm mattresses of cotton wool or feathers underneath, are all that is necessary to make one comfortable and luxurious, so long as the bed is properly sheltered from the prevailing winds, and properly sheltered by overhead cover. On the other hand, cold air is not necessarily pure, for some of the foulest air on earth is found in seldom-used public buildings that are never decently ventilated; there you have the bacteria which have lurked there since they were last aired, as well as the residue of the expired air and perspiration of successive gatherings.

The only way to be sure air is pure and fresh is to feel it blowing across your face day and night. Sit or sleep in a gentle current of air all the time you are indoors. Don't call it a draught, for if you do, up go hands in holy horror. Call it a current of fresh air or a gentle breeze, then no one is afraid of it.

The open-air treatment of consumption has converted us into the belief that a gentle breeze or draught is a friend, instead of an enemy.

Gentlemen, these are some of the practices that insure the best results at well-governed sanatoria, and the home physician, the general practitioner, must so impress the laity. Emphasize the necessity of remaining at a sanatorium a sufficient length of time to establish permanent results; in other words, they should "labor to get well," as getting well is a genuine occupation in itself. Proper individuals, with incipient cases, can secure most prompt results. Missouri open air will cure consumption. There is nothing like it under the broad sunlight of heaven, the open air of the Ozarks. There is nothing quite like it on the green earth. Do you wonder that we become open-air enthusiasts?

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Therefore, to those predisposed to tuberculosis the secret of longevity lies in the following ten commandments:

1. If possible, let every inhalation of air be above suspicion of ever having been breathed before.
2. Get eight hours' sleep, and that on the right side.
3. Keep your bed-room windows open all night.
4. Take very moderate exercise, stopping short of fatigue.
5. Eat nourishing diet, especially eggs and milk.
6. Avoid intoxicants, which lessen the power of resistance.
7. Allow no pet animals in your living rooms—they are likely to carry about disease germs.
8. Live in the open air, preferably in the country.
9. Watch the three Ds, drinking water, damp and drains.
10. Keep your temper, limit your ambition.

These suggestions and facts, gentlemen, I respectfully submit for your consideration.

DYSENTERY.

By N. Walton Williams, A. M., M. D., Waterford, Miss.

[Written for the Medical Brief.]

The pathology of dysentery lies in the invasion of the mucous membrane of the colon by a bacillus, and in constipation as a result. It was once claimed that constipation alone produced this disease, but the facts can best be accounted for by the germ theory. *"Ubi irritatio, ibi fluxus"* —true, but what produces the irritation at first, and the inflammation of the colon? What but the bacillus? We know that a continued flow of blood to the part results in hyperemia, then there is a breaking down of animal cells; ptomaine is thus produced. The bacilli are developed, and the inflammation travels by continuity of tissue, helped along by the ptomaine and the bacilli. Then, as the hyperemia increases, the diameter of the colon is less, and as the transverse bends or arches downward to form the descending colon, there is a point of obstruction to the passage of the contents—the transverse colon remains inactive and constipation is the result.

In some mild cases all that is necessary is to overcome this constipation, but we find many cases in which this constipated condition is recurrent, proving clearly that some other cause must underlie simple constipation. All the while the bacillus is getting its work in; the tenesmus increases, the upper colon remains inactive, and the lower portion becomes more and more excited, the tenesmus increases more and more, until there

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is a solution of continuity in the membrane and *sanguinolent discharges* appear. *Sanguinolent discharges are always unfavorable;* they are the result of inharmony, and sepsis resulting from the entrance of the bacteria into the blood-stream.

Unless this harmony of action be restored to the colon, the ptomaine washed out of the bowel, and the bacillus be destroyed, or held in check by the proper use of antiseptics, the colon will give way. One who has never examined, by dissection, the colon of a victim, dead from dysentery, can have but a faint idea of the ragged, sloughing, yes, *disorganized tissue.*

And now we come to the treatment, and I am happy to be able to say that, in my humble opinion, I do not think I will ever be called upon again to view such horrors, for the cure is ours, and "it is up to us" to use it. Once more sal epsom becomes your salvator, for in dysentery, as in toxemia with hematuria, epsom salts is the sheet anchor.

I do not believe in specifics, for I am a graduate of Tulane University, (New Orleans, La.) and they do not hold to specifics there, but teach rational therapeutics, and that in a purely scientific way. I love my *alma mater,* and am grateful for her teaching, and will say that the early use of epsom salts, followed by proper diet, and the use of antiseptics, would nip many an epidemic of dysentery in the bud.

I have seen this query: How do salts act? And it is well to know as much as we can about this valuable medicine, although the space granted this paper would not suffice did we attempt to tell of all the virtues of sal epsom. One thing I will say now, *i. e.,* that I have never seen it fail to exert a happy effect in the treatment of dysentery.

A gifted writer has said that even in cases where there was no constipation it did much good if given in small doses. Now, he was correct in claiming the merit for the salts, but I can not imagine a case of dysentery where there is no constipation, for constipation, plus the bacillus, is the cause of the disease.

But, to return to the text, *i. e.,* How do salts act? Our answer, in part, is that it acts by solution. It is a refrigerant laxative, it cools by exosmosis the heated membrane, it inspissates the blood, it washes out the upper colon, relieving constipation, removing ptomaine, thus easing the tenesmus as nothing else can, and it is first and foremost among the many remedies which have been used in the treatment of dysentery; at least so it has proven to be in my experience in the treatment of bloody flux in the Mississippi swamps.

I speak advisedly when I use the term *bloody flux,* for the dysentery of the North is but a mere bagatelle compared with it. Sanguinolent discharges constitute the condition known as bloody flux, and you know what that means. Calomel was once used in the treatment of this disease, but I must confess that I could never see the philosophy of its ad-

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ministration. One thing I know about it, and that is that sanguinolent discharges follow when calomel is given. Opium, also, has been a great favorite with some, but I can not see the rationale of its use either, as the patient gets a little easier today and is worse tomorrow, from its constipating effect, and, if the drug be continued, bad matters get worse, until, just before death closes the scene, the colon gives way, and there is a profuse discharge of fecal matter (which ought to have been brought away before), mixed with some blood, some pus, etc., after which death rings down the curtain.

The use of calomel or opium in dysentery is a relic of the past; only back numbers use either.

It sometimes becomes the duty of the medical writer to play the iconoclast, for there are some images to be broken, and, among these, the use of opiates, or of mercury, in flux, calls for prompt action. Some extol mercury as an intestinal antiseptic, and opium for the relief of pain.

Begin the treatment with epsom salts. After you empty the bowels use an intestinal antiseptic, to meet the other symptoms. I wish to emphasize this fact, *i. e.*, do not forget the postulate in the premises—that dysentery is caused by the action of the bacillus—this is the proximate cause; the exciting cause is the constipation due to inharmony. Restore the harmony of action along the colon, cool the heated membrane with sal epsom, then use an intestinal antiseptic after each discharge, and you will be most agreeably surprised at the results obtained. The germ will be destroyed in twenty-four hours' time, tenesmus ceases, fever is lessened, and in forty-eight hours the patient is generally convalescent.

As an adjunct to the treatment, it is well to use a small injection of tepid water. Let this remain a little while—you can hold it *in situ* with a napkin—then follow this with a larger and cooler injection, to wash out the lacunæ of the rectum, and bring away all scyballæ. This largely relieves the tenesmus, while we are waiting on the salts, *but we will not wait long, for the tenesmus will leave in forty-eight hours, under the above treatment, to return no more.* I speak from experience, for I have treated many cases of bloody flux in the Mississippi swamps, and I am moved to say that if epsom salts is first prescribed, then after it acts give an intestinal antiseptic after each discharge, *epidemic dysentery will be a thing of the past.*

PREVENTION OF X-RAY BURNS.

Von Jacksch has invented a shield, composed of a silver plate 0.02 m.m. in thickness, which is enveloped in a capsule covered by cellulose. This, placed over the parts to be exposed to the action of the X-rays, has been found to preserve the skin from injury; at the same time the rays seem to exert their influence unimpaired.

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THE PHILOSOPHY OF THE PRACTICE OF MEDICINE.

By Charles E. Buck, Ph. G., M. D., Boston, Mass.

[Written for the Medical Brief.]

How often it is that we meet professional brothers, a cursory survey of whom reveals a condition of affairs that is certainly discomforting, to say the least.

It is not pleasant to witness the all too-prevalent evidence that the unfortunate subject will, sooner or later, join that ever-increasing phalanx of cynics that is the recruiting station for the standing army of professional derelicts.

Reflection may lead us, for a moment, to question why this must be. Why should the medical profession so often furnish the target for the fickle machinations of Fate and Fortune?

Possibly, a deeper consideration of the subject may serve to explain matters, in a measure, especially so when one comes to consider the unfortunate restrictions which ever act as a professional "tether," seemingly more in this than any other business calling.

Times are changing and methods of doing business are also changing, ever seeking new avenues where the pickings may furnish better returns for the efforts.

Our profession is a noble one, and should be governed by noble and honorable ethics, but from the fact that it is a legitimate means of earning a living, and the only one that a very large number of life's workers have to rely upon for the sustenance of those dependent upon them, there seems no real valid reason why this occupation should not be governed by the same rules that obtain in any other honorable means of livelihood. Approached from this point of view—and this seems the only one practical to follow, from the fact that it seems the most logical—it appears a simple matter to explain why so many latter-day physicians do not meet with success in their chosen field of labor. The term success is used in its generally accepted form, and applies to financial advancement, according to the standard adjusted by the business world.

Ask any successful business man what qualities he considers essential to the success of any young man in the business world, and he will tell you, as would many others, that the four Ts are a veritable "big four," the possession of which, in a more or less degree, has a governing influence over the success of any man, no matter what calling he may elect to follow. These are tact, temperament, trustworthiness and training. He will, doubtless, also tell you that the business world in general has come to consider these qualities in about the order given.

It will be noticed that the first three of these are of a *congenital* nature, and the other is simply a process of making *all that is possible* out of Na-

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ture's *original donation* to the individual; the *ultimate result* does not hinge so much on the fact that he *has been trained* as to *what he has to train.*

A man may be thoroughly *trained* and *polished,* but if he does not have *tact,* that sagacious quality that gives him a marked degree of individual capacity, quickness of intellect and ability to act with self-possession, assuring success under all conditions, or *temperament,* that faculty that, crudely speaking, is the power to grasp, to sympathize, to respond, the quality that enables one to incarnate the outline and groupings of objective symptoms, and their relations to the feelings of the patient, at a glance, to reach out, as it were, into the ether and draw therefrom a definite idea of the emotions and passions of this human microcosm that is seeking his aid, pray, what does all his superb training avail him?

Temperament is like electricity—perhaps it is the same; who knows? We can tell what it is like, what its manifestations are, yet we can not clearly define it. It is nearer akin to the subtle quality called genius than is intelligence. It seems to be the quality of knowing things without learning them, and manifests itself in what is called "personal magnetism," a charm that makes others feel us. An ignorant person may possess it to a marked degree, while to a well-bred, highly-educated person, it may be entirely foreign.

Trustworthiness, of course, is as much of a requisite to the success of a physician as it is to the advancement of one in any other occupation, as also is the *routine training* that he must have if he wishes proficiency in his art. We must admit that neither trustworthiness nor training alone or together, without the compensating quality of either tact or temperament, or both, ever produced a successful physician.

Just how forcibly this factor may apply to our subject may be apparent, if one will but consider the general make-up of the average medical fledgling now in process of evolution, and a few of the facts that lead up to his choice of this profession as a life work.

The average young man elects to follow the profession of medicine after more or less deliberation in the family circle, and the choice is usually made upon the supposition that it is rather a *nice, genteel occupation,* and some family friend seems to be having rather an easy journey (apparently) over the rugged hubbles of life, and the favorite son can probably do as well, so the "die is cast," and this son is sent to a medical school. No consideration is given to temperament or qualifications—they may have a bearing on his success or failure in this line of endeavor when he comes to act as a *definite entity* in this great cosmopolitan mosaic of business life later on.

Less care is exercised even than would be the case in placing him in one of the mechanical lines, for there he would have to show some fitness, or the *inevitable law* of gravity would soon place him at such a low level

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of efficiency that he would either have to voluntarily leave, or be thrown out of the occupation.

His course in the medical school is, necessarily, of such a nature, that neither his tact or general temperament is called into view by his educators, so long as he has sufficient memory to retain the heterogeneous mass of theories sufficiently long to take him over his school and the State board examinations.

He is given exhaustive training in pathology, and bacteriology, but lamentably little in the art of relieving the sufferings of such patients as he may be called upon to treat later on. It is said of our revered Dr. Osler that he has spent a life in trying to diagnose diseases, but not fifteen minutes of the time in trying to relieve a pain.

The student graduates, and from this time on he is related to the business world much as he was to the crowd at the "old swimming hole" in his boyhood days. If he was any good he could not get his clothes off quick enough, and, when he was ready, it was a dive and he was in the water, and his lack of fear, and confidence in his ability to take care of himself in the water made his sport a success; on the other hand, we have the other fellow, who, as soon as he began to undress, commenced to find fault with the cool air, then the water, and everything in general for an excuse to justify his fear of the water; he, finally, goes down, sticks a toe in, and sits down on the bank and watches the others have their fun.

Many students enter the hospitals for post-graduate training, but while this course serves its purpose in a way, it is not a necessity, by any means, to the success of any physician. If a student *has it in him* he will succeed fully as well, after he has complied with all the necessary requirements, academic and legal, if he will just "dive in and swim," and be governed and exhilarated by that stimulus that comes to him when he knows that if he does not swim he will sink, and he can conduct his "clinic" on his *own hook,* at his own office, and they will be both *free,* and *instructive,* and he will have quite an extended experience along these lines, as most of us have had.

Verily, the "school of experience" is a grand old institution, and when its course of instruction leads along avenues that submit the student to the hard "bumps of the world" it may be *cruel* in its treatment, but *glorious* in its results.

Too much attention is given to the ethics and theories of the practice of medicine in our medical schools. Too little time is given to the honorable, practical methods of making a business calling on a par with and governed by the same honorable precedents that govern any other occupation.

The words of one of our best and most practical educators, in closing a lecture course to his students, may illustrate the sentiment above expressed. He said, "Gentlemen, in closing, I wish to impress upon your

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minds the *very important fact* that the ability of a physician to enter and leave a sick room *acceptable to a patient,* is of more importance as a factor to his success in practice than any superior medical knowledge that he may possess."

195 West Brookline Street.

ALSTONIA CONSTRICTA.

By J. A. Burnett, Hackett, Ark.

[Written for the Medical Brief.]

There are but few, if any, drugs in the materia medica of greater therapeutic value than alstonia constricta; still it is almost unknown to most physicians. This remedy is not often mentioned by late works on materia medica. Potter says:

"The Australian bitter bark, *alstonia constricta,* yields an alkaloid, *alstonine,* which resembles quinine in many respects. A tincture of the bark has slight diuretic and diaphoretic action, and has been used with benefit in influenza."

In most cases of colds, influenza, etc., I find alstonia to be a valuable remedy. It can be combined with calcium, iodized when needed, and the action of each remedy will be enhanced very much.

Alstonia constricta can be obtained in three forms: the powdered bark, the tincture, and the fluid extract. In my practice I prefer the powdered bark, as it is cheaper and seems to give better results. Like quinine, it is best given in capsules. Next to the powdered bark I prefer the tincture, which gives good results. The fluid extract can be used when desired. In all atonic conditions alstonia can be used with benefit; if there is a tendency to rickets, undevelopment of bones, teeth, etc., combine it with calcium phosphate, and in anemia combine it with iron carbonate.

The action of alstonia resembles the combined action of cinchona and nux vomica, without being a toxic agent; so one can readily see it has an extremely wide range of therapeutic action. In fact, in my opinion, there is no drug in the materia medica that has a broader range of therapeutic usefulness than this one. In malaria, either acute, subacute or chronic, alstonia is a reliable antiperiodic, but is more adapted to the subacute forms. When using alstonia in malaria, the dose of the powdered bark varies from two to eight grains. I find that three or four grains, given every two hours until four or five doses are taken, beginning so the last dose will come about two hours before the chill is due, will in 99% of cases prevent the chill or keep it off. In mild cases, four doses, two hours apart, of two grains each, will prevent a chill, while in stubborn cases as much as five grains, or even eight grains, should be given every two hours until four or five doses are taken, to prevent a chill. Between

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chill times, the dose can be given every three or four hours. This remedy has quite a little influence on the liver, but, like quinine in malaria, it should be preceded by some good purgative that will thoroughly arouse the liver and clean out the bowels. I often see some statement that some physician wants some remedy besides quinine for malaria; here it is. Any physician, no matter in what malarial district he lives, can take powdered alstonia constricta and use it as above in his practice without using a dose of quinine in any case.

In malaria, where much stimulation is needed, powdered capsicum can be added to alstonia. I often put about one grain of powdered capsicum to each dose of alstonia. In chronic malaria, where the spleen is enlarged, use it with calcium iodized. Give five to ten grains of calcium iodized three to five times a day, or about the same amount of berberine muriate.

Alstonia constricta is a valuable remedy in summer diseases of children, as it will sustain their vital forces, where the summer heat is depressing. It is one of the best remedies for diarrhœa when caused by indigestion—part of the food passing without being digested. It is a valuable heart remedy and will sustain the heart in exhausted conditions, as in the later stages of pneumonia and typhoid fever. The effect that alstonia has on the liver is very limited, but it will, in the course of time, clean a coated tongue, especially when there is a tendency for it to be coated all the time, or when it has cleaned off in patches. When purgatives have been given and a tongue cleans off in patches, it shows atony, and the patient will be rather slow in recovering; in most of these cases alstonia will be of great value. I fully believe that alstonia constricta is one of the best remedies we have for typhoid fever. It will not abort a case at all, but will sustain the vital forces, heart, etc., and cause it to run a mild course, and there will be a quick convalescence. Its diuretic properties will prevent all tendency to uremic poisoning, and its general antiseptic systemic effect is, in my opinion, far superior to echinacea in this dreaded fever. Dropsical conditions that occasionally follow typhoid fever are prevented where alstonia is used. Of course, alstonia is not the only remedy needed in typhoid fever, but it will be needed, or can be used, in some part of all cases.

The action that alstonia has on the nervous system is somewhat similar to that of cinchona and nux vomica, which makes it a powerful nervine. In many ways the general action of alstonia very much resembles the action of myrica cerifera. Alstonia constricta is a non-toxic agent, but when given too freely it will cause unpleasant head symptoms, similar to large doses of quinine. Some authors place the dose of the fluid extract as much as one drachm, while the same author will place the dose of the powdered bark at eight grains, which I do not understand. Again, some authors place the maximum dose of the fluid extract at eight drops.

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Alstonia has an alkaloid, called alstonine or chlorogenine, which can be obtained on the market, and has similar properties to alstonia constricta, bearing about the same relation to it that quinine does to cinchona, or strychnine to nux vomica. The common name for alstonia constricta is Australian fever bark, as it is a native of Australia. The name alstonia was taken from Chas. Alston, a Scotch botanist (1683-1760). There are several species of alstonia; the dita bark; alstonia scholaris is often used in medicine, and somewhat resembles alstonia constricta, but should not be used as a substitute for it. I am not aware of any other species of alstonia that has been placed on the market for the use of medicine, except these two varieties. For further information, I will refer the readers to my articles, "Alstonia Constricta," page 126, June, 1908, *Physician's Drug News;* "Alstonia Constricta," September, 1905, *Medical Summary,* and "Alstonia Constricta," May, 1906, *Medical Progress.*

TREATMENT OF AN INGROWING TOENAIL.

By Dr. Von Noppen, Niles, Mich.

Drench a cotton thread in a solution of potassium carbonate (1:4) and press it between the upper surface of the nail and the usually fungous granulations. The solution soaks the upper cells of the nail and changes them to a paplike mass. The thread always remains moist and every day you can scrape off the softened nail until the remaining part in a few days is so pliable and thin that without the least bit of pain you can cut the necessary amount of nail off. It is better yet to use the solution until the ingrowing part of the nail has entirely disappeared and go ahead this way until the ulceration under it is cicatrized. In the last case you are safe from a recurrence.

NITROGLYCERIN IN NEURITIS.

Dr. Stevenson (*Medical Record,* May, 1908) reports good effects from the nitroglycerin method of treating neuritis according to the Krauss method, beginning with 1:100 of a grain every eight hours, reducing the interval one hour in every twenty-four until the full physiologic action is manifest.

PRE-NATAL ULCER OF THE SCALP.

Riviere (*Gazette hebd. des Sci. Med.*, December, 1907) reports an infant born with ulcer of the scalp, not caused by syphilis and not due to instrumental delivery. It was pre-natal, an arrest of development. It readily healed under local treatment.

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SOME PRACTICAL OBSERVATIONS UPON PLACENTA PRAEVIA AND ITS MANAGEMENT.

By J. H. Hiden, M. D., Pungoteague, Va.

[Written for the Medical Brief.]

It is held by statisticians that one case of placenta prævia occurs in about one thousand pregnancies, and one of puerperal eclampsia in about five hundred. In view of such statements, were I at all superstitious, I would doubtless wonder if the infernal demons of the Apostolic age had not conspired against me; for I have had, within a few months, four cases of puerperal eclampsia, and three of placenta prævia, besides a number of other obstetrical abnormalities of less grave import. The successful management of all of them, nevertheless, has brought me ample compensation; for it is mostly by such experiences that one can hope to acquire any marked degree of skill in this line.

Assuming that the reader is, more or less, familiar with the commonly-accepted teachings of the cause, pathology and symptomatology of placenta prævia, I shall confine myself mainly to its management. And so, before going further into details, it may be well to take a glance at placenta prævia as it is usually thrust upon us, and then review, in a "nutshell" some of the methods in vogue as to its management. Unfortunately, many of these cases are not seen by the family physician until they have assumed a more or less grave aspect. Hemorrhages of an alarming character sometimes occur before the physician is consulted. I have had this to occur in my own practice on two occasions. As the appearance of hemorrhage is liable to occur without the least warning, it is evidently of supreme importance that the physician should be thoroughly familiar with the most reliable methods of controlling it, while inducing labor, or completing the process of delivery. If called to see a case which has sufficiently advanced in pregnancy to make it probable that the twenty-eighth week can be reached without undue risk to the mother, delay in radical treatment may be permissible, as the child's life is certainly worthy of consideration. By adopting this plan, on two occasions, I have saved mother and child in each case, all four of whom are now living. The extremely narrow escape of the mother in each case, however, has deeply impressed me with the additional risks which she encounters when such measures are adopted. In any case in which it is thought advisable to follow the course in question, it is well, upon the appearance of hemorrhage, to put the patient to bed, and pack the vagina with sterilized tampons, more or less saturated with some styptic. A supply of these tampons should also be left with the patient, with minute directions as to how they should be used, in case they are needed in the physician's absence. When the age of the child's viability is reached, bold action should be contemplated, and one of the following methods usually adopted:

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1. *Wigan's Method*—This consists in packing the vagina with cotton balls or tampons, and placing a rubber bandage over the vulva, so as to secure a constant pressure against the uterine cervix from without, while the child's vertex presses upon the internal os from within, thus allowing but a very limited space for bleeding. The method is, evidently, suited to vertex and breech presentations only, and then only in those cases in which the placentæ do not extend beyond the border of the uterine os ("marginal" cases). I doubt the wisdom of extending its application to a much wider range.

2. *Barnes' Method*—By this plan the physician passes his hand into the vagina, and then two fingers into the uterus, insinuating these between the uterine wall and the placenta, and sweeping them around in a circle, so as to complete the separation of that portion of the placenta near the uterine os, thus favoring retraction of the relaxed tissues, and contraction of the bleeding vessels. The remainder of the treatment may be followed with further dilatation of the uterine os, and version; or, in case bleeding is sufficiently controlled, the case may be conducted in a normal way.

3. *Cohen's Method*—By this method the physician passes one or two fingers between the placenta and the uterine wall, on the side where separation has begun, or where there is least resistance, and completes the separation on this side. When a sufficient portion of the placenta is thus separated, he pulls down this flap through the uterine os, and packs it against the other side of the cervix. Then he ruptures the membranes, gives ergot, and hastens the process of delivery, so that the vertex may quickly engage that portion of the os from which the separation has taken place, and by direct pressure control bleeding. If this is unsuccessful, podalic version is then performed.

4. *Simpson's Method*—This consists in separating the entire placenta from the uterine wall, and extracting it. This procedure often stops bleeding by the retraction of the tissues, which usually follows, but it gives scarcely a possible chance for the child's life, and, hence, is recommended only in those cases in which there is practically no hope for the child's life by any other process of delivery.

5. *Hofmeier's Method*—This is facilitated by the fact that the placenta is usually quite thin in placenta prævia. It consists in forcing the finger directly through the placenta, and then bringing down a leg through this opening, thus completing version. This method has given remarkably good results.

My first experience with placenta prævia was about ten years ago, when I was called in consultation by another physician. We were both young and inexperienced practitioners, yet full of hope, and anxious to make for ourselves a reputation. We made it, but not as physicians. When we saw our patient approaching term, with the bed almost saturated with

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blood, labor setting in, the extremities cold, face pale and anxious, pulse weak, thready and frequent, and other signs and symptoms corresponding with the gravity of the case, it was evident that our medical knowledge was not of the right sort. There was a painful lack of experience. I suggested an effort at podalic version, but as neither of us had had any experience in this line, my suggestion was ignored in favor of local applications and styptics. The consultation took place about eleven P. M., and I retired for the night, leaving the patient in the care of the other physician. Early the next morning he called for me, however, and asked me to operate on the patient, or do as I thought best. I accepted his suggestion, and we hurried to our patient only to find that death had already seized its victim. This experience with placenta prævia impressed me with the supreme importance of bold measures in dealing with so dangerous a malady.

Case 2—The patient, a multipara, advanced nearly seven months in pregnancy before hemorrhages appeared. Several of these, of a mild character, occurred before her real condition was discovered. She was then put to bed and treated with care, until I was assured that the child had reached its age of viability. After about three weeks of great anxiety, watching and controlling hemorrhages, I decided upon immediate delivery. As the case was that of a vertex presentation, and the placenta did not entirely cover the uterine os, a modification of Wigan's method was adopted, by which a styptic gauze packing was introduced within the uterine cervix, in addition to the use of the vaginal tampons. This procedure brought on labor with almost continuous uterine contractions, thus bringing the vertex of the child's head in direct contact with the ruptured, bleeding vessels within the uterus, while the vaginal tampons supported pressure from without. Bleeding was thus controlled. Notwithstanding this success, this rapid labor still gave trouble; for after the birth of the child the uterine muscular fibers were so exhausted that it was with great difficulty that the uterus could be made to contract. By persistent efforts this difficulty was finally overcome, and both mother and child were saved.

Case 3—This patient, a multipara, about five months advanced in pregnancy, was taken in the night with an irregular contraction of the uterus, associated with a considerable hemorrhage. Upon my arrival the hemorrhage had practically ceased, but this painful, abnormal uterine contraction still remained. By it the uterus was forced out of its normal position into the left side of the pelvis, and the patient was in much distress. This was treated by the prompt administration of opiates, and the local application of wet, hot towels over the uterus, causing a relaxation in the uterine muscular fibers, and the return of the organ to its normal position. The patient was then kept in bed, and treated with uterine sedatives and local applications for the following week. At this juncture, owing to an attack of the grip, I was compelled to resign the case temporarily to another physician.

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After about two weeks of watchfulness my colleague summoned me to his assistance. Hemorrhages were becoming alarming. Upon my arrival we decided upon immediate delivery. An anæsthetic was given, and I soon dilated the cervical os, separated a portion of the placental attachment, and performed podalic version after the Braxton Hick's method. The patient soon made an uneventful recovery.

Case 4—This occurred in the same patient about four years later, and was almost a repetition of the details just given above. Even the irregular uterine contraction, associated with hemorrhage, appeared about the fifth month in pregnancy. It is sufficient to say that as soon as the diagnosis of placenta prævia was made, and confirmed by another physician, an abortion was performed. This was accomplished by a dilatation of the cervical os, the introduction of gauze packing within the cervix, followed with vaginal tampons, and the administration of ergot. The case with which labor was induced and bleeding controlled, suggests strongly an early abortion as the safest means in dealing with placenta prævia. Patient made an uneventful recovery.

Case 5—This patient, a multipara, was seen in the eighth month of pregnancy, soon after a hemorrhage. This appeared without either warning or any ascribable cause. Bleeding being controlled with vaginal tampons, I decided to postpone the induction of labor, and watch the case another week. At the end of this time I was summoned to my patient, and, upon my arrival found her in a critical condition. Labor was setting in, and bleeding was alarming. After quickly packing the vagina with tampons, I made preparations for a podalic version. Another physician was called to my assistance, and he readily agreed with me that her only chance for life depended upon an immediate delivery. The patient was chloroformed, put upon a table, the packing removed, and every effort made to render the birth canal and adjacent parts as near aseptic as possible. An examination of the cervical os revealed a dilatation about the size of a half dollar, and a partial separation of placental attachment on the left side. Through this opening I gently forced two fingers, and, after a little more dilatation of the cervical os, passed in my hand. A foot was readily found, and version accmplished with but little difficulty. After delivery the patient was so weak, pulse so feeble, that one-tenth of a grain of strychnine was administered hypodermically, in broken doses: A quart of normal saline solution was also introduced into the bowels. These measures, along with hot applications to the extremities, gradually revived the patient.

The child was in good condition, and is still living. On the fifth day after delivery I found the mother's uterus showing a marked tendency toward relaxation, with more or less bleeding. I then washed it out, and by manipulations forced it to contract. Ergot, at regular intervals, was also given for several days. Things went well until the eleventh day, when

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I was again called to the patient. When I arrived I found that the uterus had again become relaxed, and a considerable hemorrhage was the result. Knowing that the uterus was free of all detachments, membranes, etc., I at once grasped the organ through the abdominal wall, and, by repeated squeezing, forced it to contract. A firm abdominal binder was put on, and the regular administration of ergot (which had been discontinued) renewed. The repeated grasping and squeezing of the uterus, upon daily visits, was continued for several days, which measure proved quite effective in keeping this organ in a state of retraction. In may be added, just here, that a mixed treatment (antisyphilitic) was also given, as the patient had shown, some months before her delivery, symptoms of syphilitic taint. By these combined measures all symptoms gradually improved, and the patient was restored to health.

In summing up some points of interest in connection with this subject, I may say:

1. In my opinion, the most prevalent cause of placenta prævia is intimately associated with general imprudence, if not entirely caused by it. Too frequent pregnancies, former miscarriages, and oftentimes an arrested miscarriage in early pregnancy, doubtless play an important role.

2. Placenta prævia is likely to recur in the same patient in case of pregnancy. I have had, in my practice, two patients, each of whom has had the misfortune twice. Ingleby cites two cases in which the orifices of the Fallopian tubes entered the uterus near the os internum. In one of these, placenta prævia occurred three times; in the other, ten times.

3. The occurrence of a "tonic contraction" of the uterus—a spasmodic grasp of the uterine muscular fibers, appearing in the fifth month of pregnancy when associated with hemorrhage, should arouse suspicions of a placenta prævia, and an investigation should be made with this thought in view.

4. When seen in time, a placenta prævia can be more safely handled by the induction of abortion.

5. When seen near term, no half-way or uncertain measures should be undertaken in its management; but bold measures, involving a podalic version, should usually be adopted.

6. When version is attempted, the bipolar method should be used, as it facilitates the operation,, and lessens the danger.

7. The administration of chloroform is not objectionable in most cases of placenta prævia, as it relaxes the parts, facilitates version, lessens injury to the soft parts, and lessens the danger of uterine rupture.

8. When contemplating a podalic version, and the Braxton Hick's method is scarcely practicable, it is not well to magnify the dangers from introducing the hand into the uterus. The danger from this source, under proper care, are very trivial, compared to those of half-way measures in

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dealing with the desperate hemorrhages which often characterize a placenta prævia.

9. When performing version, and a leg is brought down, plugging the os, and completely stopping hemorrhage, it is usually well to complete delivery by a slow process, using but slight traction, at intervals, after the breech has engaged. By this measure, time is allowed for more complete dilatation of the uterine os; the advancing head is kept in its normal, flexed position; strength to the mother, and tone to the more or less exhausted uterus, are restored, diminishing the dangers of post-partum hemorrhage.

10. It should be observed that secondary post-partum hemorrhage, due to general weakness and profound anæmia, is much more apt to occur in cases following a placenta prævia than after normal labors. This being an established fact, every precaution should be taken, in such cases, to spare the patient this additional danger.

PUERPERAL CONVULSIONS.

By J. Louis Snow, M. D., Pine Apple, Ala.

[Written for the Medical Brief.]

On the seventeenth of September, last, I was called to attend Mrs. S., in confinement. She lived only three miles from town, and it was but a short time before I reached her bedside, and found her in the first stage of labor, pains regular and os considerably dilated. I questioned her, and was told that she had suffered intensely for the last few days from headache. I was alarmed, but as the labor progressed so rapidly, with no evidence of nervousness, I concluded that I would have no trouble.

In one hour and thirty minutes everything was over, and I was making preparations to leave for my home, when, to my surprise, I noticed that my patient had a convulsion. I immediately emptied the uterus of all clots, and gave her one-half grain sulphate morphine and one-seventy-fifth grain atropine sulphate; also endeavored to have her inhale chloroform between the convulsions. In thirty minutes my patient had another convulsion, and I repeated the morphine and atropine in the same-size dose.

Thinking perhaps the much-dreaded convulsions would now cease, I began to feel somewhat easy, but, to my surprise, they continued at regular intervals, and again in thirty minutes I gave her one-fourth grain morphine sulphate and one one-hundred-and-fiftieth-grain atropine sulphate.

Just here I noticed that my efforts would be crowned with success, she having, until then, seven convulsions.

I wish to impress the young men of the profession to give morphine and atropine in heroic doses in puerperal convulsions.

The next day I gave my patient a mercurial purge, following same with oleum ricini. She made an uneventful recovery. I verily believe the treatment outlined above is the best to be used, and that if used in heroic doses most cases will recover.

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MEDICAL LANGUAGE.

By Dr. H. Zimmerer,
Professor of Philology, Regensburg, Germany.

(Continued from page 320.)

New formation: decoctorium.

15. An important role in medical language is played by the diminutives. They either describe the root-word as small: παιδ-ίον, puer-ulus ***audcinas*** (παῖς) κηπ-ίον, hort-ulus (κῆπος) οἰκ-ίδιον little house (οἶκος), little boy, παιδ-άριον μελ-ίδριον short song, (μέλος) or they signify an endearment: κορ-άσιον (κόρη) ψυχ-άριον (ψυχή) fili-ola, uxor-c-ula, ami-c-ulus, oc-ellus (from ocul-ul-us), lect-ulus; or something pitiable, contemptible: ἀνδρωπ-άριον, ἀνδρωπ-ισον-ίσκος, λαγῴδιον (λαγώς), γυν-αιον, γύνν-ις, γυναικ-ίας, γυναικ-άριον homunc-ulus, as-ellus (asin-ulus), pleb-ec-ula, mulier-c-ula lupula lewd woman, meretric-ula, len-unc-ulus, meretricious person.

Suffix -lus, -la, -lum, with the connecting vowel u in u-lus, with an additional c in c-ulus: fasculus, folli-culus, flos-culus, osculum.

The suffix -edula is frequently used to denote the names of animals, especially birds: acr-edula scops-owl, fic-edula fig-edula, mon-edula jack-daw, nit-edula dormouse, querqu-edula teal.

The suffixes in -ellus and -illus have originated from the combination of the two diminutive forms -ulus and -lus, the first u of the former suffix being changed to e and i, and the second u being dropped; therefore ul(u)lus (el(u)lus), ul(u)lus (il(u)lus); agnus, agnulus, agnululus, agnellus, anellus, catellus bacillum, axilla, maxilla (maxla, mag, μάσσω masticate).

Solitary forms are the following: scruti-scrum (scutra key); in Greek those ending in -ίσκος, -ίσκη, -ίσκον -leus instead of -lus: equuleus, hinnuleus, nucleus; tocullio userer, τόκ-ος usury, μαλακ-ίων weakling, δειλ-αρ-κίων wretch homun-cio little person, sen-ecio, mat-ellio (matula chamber utensil), rub-ellio reddish fish, red eye, pinguecula from pinguis.

The formation of the diminutives seems to be chiefly due to popular language, and this explains that in the modern Greek and Romanic languages it is quite usual to employ the diminutive form instead of the root, as for instance, μάτι, ὀμμάτιον (ὄμμα) παιδί, παιδίον.

A similar custom prevailed already in the times of antiquity, such as βιβλίον from βιβλος, θηρίον from θήρ.

The Roman languages furnish soleil from sol, aieul from avus, ucella (Italian) -aucella, -avicella, -avicula, -avis, corbeille, -corbicula, -corbis.

Very frequently diminutives are used in technical terms with a totally different meaning from that of the root-word, such as: denticulus denticulation, capitulum small head, chapter, mus-culus muscle.

16. The adjectives ending in -ax express a disposition or capacity, as for instance: capax, tenax.

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Here, also, belong the substantives in -aculum. Among the large number of Latin words denoting names of instruments, tenaculum and retinaculum should also be included, but they represent a false analogy under the constructive law of gubern-a-culum from gubernare, and in reality they can not hide their derivation from the adjectival roots of tenac- and retinac-. (Osthoff, Forschungen, 1875, p. 56.)

17. In connection therewith are the adjectives ending in -aceus (Greek -αξ -άκιος, -άκιον). Saeta-ceus (saeta bristle), herba-ceus grasslike, hedera-ceus (ivy), ampulla-ceus (bottle), membrana-ceus (membrane), rosa-ceus, creta-ceus (chalk), papyra-ceus, arundina-ceus (arundo cane), pavona-ceus (peacock), hordea-ceus (barley), arra-ceus, gallina-ceus. The e in eus is to be pronounced short; the long sound in botanical names ending in -aceae is wrong.

18. The adjectives in -ilis indicate a passive, only rarely an active, ability or fitness; for instance, fiss-ilis—cleavable.

19. -(i)cus, -(ι) κός, -aticus. Attached to roots of nouns they form adjectives, which, like the adjectives in -ως, correspond to the German terminations -ig, -lisch, -lich and -isch, indicating that something belongs to the root, refers to it or is derived therefrom. For instance, ἀδελφ-ικός from ἀδελφός, etc., divic-us, nephritica, νευριτικός, νεῦρικός analeptica, analgetica, anti-dyscratica, epileptica, galactica, hydropica scil. remedia.

20. -unus and -ivus have a passive and intransitive significance: nativus, vot-ivus, pass-ivus,, aest-ivus, captivus, fugitivus.

New formations: entero-raptivus and vomituritivus (vomiturio, vomo).

21. -undus, -bundus and -cundus have the significance of the participle present with increased force: mirabundus full of admiration, furibundus, mori-bundus, fe-cundus (feo).

22. -neus, νεος, fag-i-neus make entries, -φηγ-ί-νεος, also -g(e)nus, gineus (gigno) designate material and origin; unigenus, unigenitus, benignus, malignus, indi-gena, terrigena, aliegnus.

-aneus, -anus, also indicate an origin; castell-anus, pist-anus, font-anus, humanus, urbanus, mundanus, decanus, membrana, quartana, alt-anus sea breeze, sol-anus east wind.

New formations: melan-eus, μελάνεος instead of μέλασμα.

ίνος serves to form adjectives denoting a time; χθεσ-ινός hesternus, yesterday, ἐαρ-ινός vernus, νυκτερινός nocturnus, ἑσπερ-ινός vespertinus.

-inus, names of animals: agninus, anguinus, aprinus, caninus, leporinus, leoninus, asininus, porcinus, equinus.

New formations: Dextrin, ergotin (ἔργω), morphin, cocain, solanin, strychnin, margarin (fatty substance), from μάργαρον-μαργαρίτης pearl on account of its lustre.

New formations: intracutanus, subcutanus, percutanus (cutis skin), -aeus and -eus.

If the adjective is of Greek origin, and if it has been formed from a Greek substantive by changing the final syllable into αιος, as in γλουταῖος,

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περονᾶιος, ποδιᾶιος, οβελιᾶιος, στεφανᾶιος, the only way in which it may correctly be written is with ae, thus: glutaeus, peronaeus, podiaeus, obeliaeus (sagittalis), stephaniaeus (coronalis).

If, however, the substantive is Latin, as for instance, pecten, brachium, poples, femur, tibia, crus, solea and cubitus, it is not permissible under any circumstances to write pectinaeus brachiaeus, etc., but pectineus, branchialis, popliteus, femoralis, tibialis, cruralis, soleus and cubitalis. In all adjectives ending in eus the e is short and unaccented, "quia vocalis ante vocalem corripitur."

23. Suffix -dus, -da, -dum, from the root da, give; luc-i-dus, giving light, frig-i-dus, cold.

24. Ending in -osus denotes a fulness: aren-osus, lapid-osus, erythematosus, nodosus.

New formations: corymbosus, nummulosus, phlegmonosus, crouposus.

25. Derived denominatives ending in -cus, κος (spurcus, pau-cus, μαλακός); hiul-cus gaping (from hiolus, hio, hiare), juven-cus (juvenis), petul-cus pushing (pet-ulus, petere), pris-cus (pris-prius), moll-us-cus (moll-is), past-i-cus (pastus, pascor), bubul-cus (cattleman) (bubulus), subul-cus (subulus, pig, sus).

26. -alis, suffix or appurtenance: flor-alis, austr-alis, natur-alis, mort-alis, fat-alis.

New formations: cordialis, pulmonalis, laryngealis, synochialis.

27. Formations in -tom are, of course, ordinary verb-adjectives in -ος from the root τέμνω cut, therefore really ανα-τόμος (τομεύς, τομικός).

28. The adjectives in -ulus express an inclination: aemulus, assiduous.

New formation: volvulus.

The extended forms of the comparative call for special attention: fortiusculus a little stronger, grandiusculus, unctiusculus, pinguiusculus, minusculus, plusculus, duriusculus.

New formation: depressiusculus.

29. The adjectives in -orius are formed from substantives ending in -tor and -sor: amator-ius, uxorius.

New formations: suspensorius and depletorius (depleo), depletory; similarly constructed is percussory (from precutio I beat).

30. -tus, -atus, -itus, -utus, -otus indicate the fact of being provided with something. Ansatus handle, barbatus, alatus, teporatus lukewarm, auritus, pellitus, crinitus, fellitus, mellitus cornutus, hirsutus, nasutus, aegrotus.

31. Ending in -olentus, -oleus, -olus, -ulus, -ulens, caer-ulus, bubulus (bos, bovis), opulens, opulentus, violens, violentus, sanguinolentus; otherwise only -ulentus, truc-ulentus, up-ulentus, corp-ulentus, pot-ulentus, fraudulentus, esc-ulentus, luc-ulentus, lut-ulentus, pulver-ulentus, turbulentus, poculentus, rorulentus dewy, purulentus, temulentus intoxicated (tem trunk, like temer-arius), virulentus (virus poison), frustulentus,

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macilentus lean, mustulentus, full of must, pisculentus, aquilentus, bucculentus chubby.

The following are of later date: carnulentus (meat), faeculentus (yeast), farinulentus (flour), febriculentus (fever), florulentus (flower), foetulentus (fetid), glubulentus (lumpy), jurulentus (juice), marculentus (withered), merulentus (drunk), merus (wine), muculentus (mucilantus), glandered, rosulentus rosy, somnulentus, sordulentus sordid, suculentus. terrulentus, worldly.

Grac-ilis (grac-ilentus) leads us to the origin of the suffix -lentus, which of course has nothing to do with a verb oleo (olens, olentus); pestilens-pestilentus. These Latin formations in -lens, -lentus, with the connecting vowels i, o, u (ilentus, olentus, ulentus) are closely connected with those in -ilis.

32. Adjectives ending in -ος are simply taken over from the Greek and latinized; ἀκέφαλος without head akephalus, but again with a change of accentuation; ἀπρόσωπος without face aproposopus, ἄπους without foot apus, ἀμορφος without shape amorphus.

New formations: ἀνόφθαλμος (ἀόφθαλμος) without eyes, anophthalmus, ἄμελος (ἀμελής, ἄκωλος) without limbs amelus, ἄκορμας without trunk acormus.

33. By far the most frequent of all adjectival suffixes in medical onomatology is -ideus -ο- ειδής. Hyrtl has collated the same in desirable completeness for anatomical requirements; aden-o-ideus, allant-o-ideaus, arachn-o-ideus, arytaen-o-ideus, ex-o-ideus (old name for epistropheus), bathm-o-ideus (resembling a sinus, from the Hippocratic word βαδμίς, articular fossa), etc. All these are latinized Greek words ending in ειώής with the connective vowel o.

Only in the seventeenth century they were used as Latin epithets in anatomy, mostly through J. Riolanus; many of them are still in use today. The corresponding Greek adjectives end in -ειδής. In Latin it is permissible to contract the diphthong ει to ι and to change the end syllable ης to -eus, so that, for instance, αδεν-ο-ειδής may be expressed by aden-o-ideus. In this word the i is long, because it stands for ει, while the e is short, as is the case in all adjectives in -eus (aureus, argenteus, ferreus, plumbeus, etc.). The only correct pronunciation, therefore, is adenoideus, and this also applies to the similar words adenoid, alcaloid, sarcoid, myxoid, etc., which have been formed in imitation of the Greek precept, and which ought to have the long accent on the i. It has become an objectionable practice among anatomists to reverse the accentuation, and the desire that such custom should no longer obtain, is voiced by all linguists.

New formations are amongst others: fibroid, desmoid, dermoid, discoid, fungoid, celluloid, alkaloid, geoid.

34. It should also be mentioned that it is customary in Germany to use the termination -isch for the rendering of Latin and Greek adjectives ending in -ius, -icus, and -ιος, -ικος; thus, depletorisch for depletorius,

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δυνάμιος (*δυναμικός*), *ἀδυνάμιος* (*ἀδύνατος*), *ἀδύναμος* dynamic, adynamic *φισικός* physisch, *σθένιος* sthenisch, *ὀπτικός* optic.

-fex, -ficus and -ficax are terminations of the root fac in facere; for instance, arti-, auri-, carni-, dapi-, opi-, ponti-fex; bene-, grati-, honori, horri-, magni-, male-, miri-, muni-ficus; efficax-. Combinations with -genus, -gena, *-γόνος*, *-γενής* (and *-γωνος*) from *γίγνομαι*, root *γεν-*, gi-g (e) no are favorites in medicine, for instance, alieni-genus, caeli-genus, indigenus, terri-gena, privi-genus, pyro-gen, pythogen, endo-gen, oxygen (*ὀξυγενής*) pyogen, saprogen, hydrogen, amphigen (*ἀμφιγενής*), pentagon (*πεντά-γωνος*), *γῶνος-γωνία* (angle, corner), trigon, etc.

On is employed in order to indicate that certain objects are present in multiple form; no such implication is noticeable in an and en. Otaphon might recall *ὠτό-φωνος* like antiphone, telephone, but is said to be derived from *οὐς* and *ἅπτω*, which, however, is quite impossible.

Many of these terminations are quite arbitrary and are preferably used for certain kinds of substances, for instance, to designate the material, the alkaloids, the poisons which occur in various plants: morphin, cocain, solanin, strychnin, ergotin (*ἐργω*) margarin (*μάργαρον-μαργαρίτης*), pearl, on account of its luster.

Newly-formed terminations, or, more correctly expressed, compositions:

-yl from the Greek *ὕλη* substance, for instance methyl (*μετά* after), Liebig's Nachstoff, "after-substance," ethyl (*αἰδήρ*) propyl (prope near by), butyl (*βούτυρον*) amyl (*ἀμυλον*).

ol from oleum, oil, for instance, benz-ol, carb-ol, phen-ol, tolu-ol.

-al, abbreviated from alcohol (!), for instance chloral, aethal.

-at, -ate, after the Greek *άτης*, for instance, carbon-ate, sulf-ate.

35. Of importance in these compositions are the laws of the connective vowel and the vowel gradations. The former which is usually inserted for the sake of euphony, exists in Greek in the enthetic o, in Latin as u and i; for instance: *ἀδεν-ο-ειδής*, luc-u-lentus, luc-i-dus, verm-i-formis, by virtue of subsequent syllables containing a changed sound. For instance: *κείρω*, *ἀ-καρ-ής*, *φέρω*, *φόρος*, *γένος*, *γόνος*, (*φαμί*), *φημί*, *φωνή*, *λείπω*, *λοιπός*, *τρέφω*, *τροφή*, *ἐτράφην*, sepel-io, sepul-crum, reg-o, reg-us, tego, toga, fero, fors.

This connective vowel is frequently omitted in new formations. as in a-rhin-enkephalie instead of *ἀ-ρινο-εγκεφαλία*, atmiatria instead of *ἀτμο-ιατρία*.

36. A certain task in medical language also devolves upon the *ἀ* primitivum. The latter serves to express a negation or deterioration of the part that follows, similar to the Latin in (gratus, in-gratus) and the German and the English un. Before vowels it becomes *ἀν*, for instance; *ἀ-βατος* not able to go, *ἀ-θάνατος* immortal, *ἀ βουλος* badly counseled, *ἀν-άριθμος* innumerable.

The *ἀ* primitivum is even used in Latin, but unjustifiably so: a-reflexie, anaciditaet (!). Instead of *ἀ-μυο-τροφία* one would expect *μυ-ατροφία*, instead of *ἀ-μυασθένεια*, *μυ-ασθένεια*.

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New formations: *ἀν-ακουσία, ἀν-ιριδία.*

To be differentiated therefrom is the collectivum, copulativum or intensivum, expressing a communion *ἀ-λοχος* spouse, an equality, *ἀ-τάλαντος* holding the balance, an assembly, *ἀ-δρόος* numerous, or an enforcement, *ἀ-τενής* very taut, *ἀν-εύρυσμα* from *ἀνευρύνω.*

37. There are frequent combinations with di, dis, *δυς*, and the meaning of di, dis, *δυς* is that they decompose, dissolve, or deteriorate the conception which follows.

διά probably goes back to a root with the significance of two-fold (comp. *δίχα*), and therefore originally meant in or with a division, that is between.

δι(ς) properly means twice, the Latin bi or bis, therefore *δί-ωτος* with two ears.

dis, asunder, remains unchanged before vowels and h. Before consonants it is sometimes dis, sometimes di.

δυς is an inseparable prefix like the English mis or un, and signifies the undesirable, objectionable. Before words commencing with *σθ* or *στ*, the *σ* is usually omitted. Here also belongs formations like ve-sanus ve-cors, ve-stigium in accordance with vi-dua, vi-ginti, etc.

38. Derived verbs. A complete chapter on verbs would require a book for itself. But for our purposes they are not of great importance, because we have principally to deal with nouns. Verbs are derived in many different ways from noun-roots. The most important terminations of derived verbs, which differ only slightly from each other in their meaning, are the following, arranged in the present tense: 1. *ω* for instance *μισθόω* (*μισθός* wage); 2, *άω*, for instance *τιμάω* (*τιμή* honor); 3, *εω*, for instance, *ἀριθμέω* (*ἀριθμός* number); 4, *είω*, for instance, *βασιλείω* (*βασιλεύς* king); 5, *ίζω*, for instance *ἐλπίζω* (*ἐλπίς* hope); 6, *άζω*, for instance *δικάζω* (*δίκη* right); 7, *αίνω*, for instance, *σημαίνω* (*σῆμα* sign); 8, *ύνω*, for instance *ἡδύνω* (*ἡδύς* sweet).

Derivative verbs are those ending in *σείω*, sometimes also in *άω*, *ιάω*, *γελασείω* it makes me smile, *δρασείω* I would fain do so, *φονάω* I am murderderously inclined, *κλαυσιάω* I feel like crying. Verbs with the last two terminations also frequently denote a bodily affection or illness: *ὠχριάω* I suffer from chloriasis, *ὀφθαλμίαω* I have an affection of the eyes.

Similarly in Latin. Verbs are derived either from other verbs or nouns, and are differentiated as follows: frequentative verbs, serving to repeat or enforce the primitive meaning, as in clamo, clamito; domo, domito; adjuvo, adjuto; curro, curso, cursito; dico, dicto, dictito; defendo, defenso, defensito, etc.; further desiderative verbs, such as edo, esurio; or diminutives: canto, cantillo; conscribo, conscribillo; sorbeo, sorbillo; or inchoative verbs ending in sco, caleo, calesco, etc.

Derived from names are florere (flos), albare (albus), stirpare (stirps), etc.

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39. Of Greek prepositions and particles the following are to be noted: ἀνά up, κατά down, ἅμα simultaneously, ὁμοῦ, διά through, δίχα two-fold, μετά with and after, very frequently indicating an alteration, παρά aside, against, ὑπό below, ἐν, εἰς within, ἀπό away, ἀμφί around, ἐπί upon, ἀντί opposed, ἐκ, ἐξ out of.

New formations: Doubling of the prepositions as in παρα, πάρ- εσις contra-extension.

From the Latin a, ab, abs; the primitive form is ab., Greek ἀπό.

Ab stands before vowels and h, but may also occur before all consonants like a.

The form abs (aps) is met with before c, p, t: abs-tineo, abs-traho, abscedo, absque.

Shortened in as, as-pello, as-porto.

The form au in au-fero, au-fugio, is derived either from the Sanskrit ava, old high German aba- from above, or from the preposition af, -av, -au.

The ancient Latin preposition am, an corresponds to the Greek ἀμφί, amb-io, amb-ire, am-plector, an-fractus; Sanskrit abhi, umbi, old high German umpi. Many compositions are the result of the adverbial preposition versus (from verto, adversus, aliorsum, deorsum, dextrorsum, introrsum, prorsum, rursum, retrorsum, scorsum, sinistrorsum, sursum (sub-vorsum). The function of the prepositions sub under, super over, subter below is taken for understood.

40. Very startling and barbaric are hybrid formations, which combine words or terminations from the two languages, as for instance audiphone, dentaphone, dextero-καρδία, κερατο-globus, neonatus, lact-ἀγωγ(ος), περι-vaginitis, καυτηρ-isatio, σπλην-isatio, συν-ovitis, συνοχ-al, φαρυγγ-ealis, amoeno.μανία, αντ-acidus, αυτο-transfusion, cavern-ωμα (cavernom), dextr-ωσις (dextrosi); ἐρυθημα-tosum, ἡπατ-isatio, lupin-ωσις tuberculosis, μον-oculus, ὑπερ-secretion, sub-φρεν-icus, φλυκταιν-ula, φλυκταιν-ulosa, φλεγμον-osa, αὐτο-mobil.

Some of these could easily be replaced by pure Greek words, as for instance: ὠτόφωνος, ὀδοντόφωνος, δεξιοκαρδία, κερατόσφαιζος, νεογνός, ἀρτιγενής, γαλακταγωγός, περικολεῖτις, καυτηρίασια, σπλήνωσια, συνωῖτις, συνοχικός, φαρυγγώδης, τερψιμανία, αντοξικός, αὐτοδιάχυσις, σπηλαίωμα, δεξιοστροφία, ἐρυτηματῶδεη, ἡπάτωσια, λύκωσις, φυματίωσις, μονόφθαλμος (ἑτερόφθαλμος), ὑπερέκκρισις, φλυκταινίς, φλυκταινώδης, φλεγμονώδης, αὐτοκίνητον.

Word mutilations, such as pelys instead of pelvis, panaritium instead of paronychium (παρωνυχία), athetosis instead of ἀδέτησις antimonium corrupted from the Arabic al-ithmidum, bracherium instead of brachionarium, myrinx instead of μῆυγξ, etc.

Arbitrary contractions like achrupsia instead of ἀχρωματοψία, akiurgia instead of ἀκιδοέργία, ἀκιδουργία, chrupsia instead of χρωμοψία, kinaesthesia instead of κινησιαισθησία, metopagia instead of μετωποπαγία.

41. We have referred already to the new formations of the later Greek and Latin at the hands of the latinobarbari, and it stands to reason

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that our collection could be increased indefinitely. New formations like *βου-κνημία* analogous to *βού-βρωστις* and *βουλιμία* (voracious appetite)= *βου-λιμία, βού-μασθος, ι ε ἀμπελος, βού-νεβρος βού-παις, βού-παλις, βοί-φθαλμον* are justified.

It is only with difficulty that some kind of order can be introduced into the chaos of new formations in the language of the natural sciences, but the following points may be established:

a.—After proper names of known persons, inventors, etc.: Bartholinitis, Columbium, Daltonism, Galvanism, Hausmannite, Humboldtite, Mikrohm (Ohm), Mikrofarad (Farad), pasteurize, etc.

In this connection "Quadrivius" passed the following excellent remarks in the Muenchener Medizinische Wochenschrift, 1896, No. 8, with reference to modern medical literature: "Few scientific nomenclatures, except perhaps the zoological and botanical, are so loaded with proper names, as the medical, which is not exactly conducive to the joy of the students. Soemmerring, and later Henle, have emphasized the unsuitability of this appellation, at least in the department of anatomy, blaming the same if for no other reason on account of its injustice, for the true merit has not always received due recognition. * * * But to put names down as suffering from inflammation, by attaching the famous termination "itis," is a linguistic outrage."

b.—After deities of all mythologies: Janiceps, Pelopium, Niobium, Kastor, Pollux, Titanite, Atropa, Sisyphus, Geokronite (Kronos), etc.

c.—After countries and places of origin: Bougie, tobacco, achate, cognac, uralite, etc.

d.—After the origin of a natural body: Acetone, kreatin, ptoma (t)in, allyl, papaverin, etc.

e.—After a similarity: selenoid, krystalloid, geoid, hippuris.

f.—Botanical, zoological, chemical and physical properties: Acetum, chloride, bromide, gelsemism, hymenopterism, nitrobenzolism, glycerin, haematoxylin, auripigment.

g.—Object or effect: Pyknometer, rheometer, antifebrin.

h.—After a system: Sulphur, copper, ether, etc., for instance: Dimethyl-amidoazo-benzol-mono--carbonic acid.

i.—Original names after iron, lead, gold.

k.—Arbitrary of doubtful origin: Alkapton, alloxur, amalgam (*μάλαγμα*) paraffin (parum affine), merkaptan (mercurio aptum), aldehyd (alcohol dehydrogenatum), phenol (*φαίνω*, oleum), acetal (acetum and alcohol), aldoxin (hydroxylamin-aldehyd), aroph (aroma philosophorum!!), Olm.

Comparable to the riddle of the Sphinx are names such as Mangan, Opodeldock (secret name?), Galmei, Theodolite, Schoerl, Annalin, Gas (van Helmont), etc.

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Often, however, combinations of a Greek nature have been coined quite regardless of whether the new formation responds to a Greek etymon or not, as is the case in haemoptoe (from *αἷμα* blood, and *πτύω*, spit), instead of the correct word *αἱμοπτυσία*. For the word *αἱμόπτοια* does not exist (corresponding perhaps to *διάρροια*, a through stream), while proe or ptoe would not be correctly constructed from *πτύω*. Further, pell-*άγρα* is formed analogously to *ποδ-άγρα* and *μελιτ-άγρα*, melaneus, *μελάνεος* instead of *μέλασμα*.

Late Greek are: *ἀνθημα* (anthem), new Greek *ἐξάνθημα* from *ἀνθέω*, *ἀνθη*, *ἀνθος*. Further, baryekoia and dysekoia from *βαρυήκοος*, *δοσ-ηκοος*, *δυσ-ηκοία* from *ἀκούω*, etc.

From the late Latin may be mentioned words like acuitas, aplanatio (planus), anteflexio, axialis (axis), bursa, borsa, brunescens (from brunesco, brunus), ceratinare (*κεράτινος*), cystin(us), congelo, crampus crispatura tendinum, contra-extension, dentinum, desodorisantia, duodenum, ergotinum, extravasatio, fracturosa pelvis, herpeticum, inositus (*ἰς*, *ἰνός*), obductio, morbilli (measles), raspatorium, scarlatina, sporulatio.

We then owe to the Romanic languages words like bastoria (bistouri), cliquetis, dengue, mandrin, massage, rabot-odonto-triteur, sonde (sub-unda), spara-drap, tendon, etc. Most of the surgical instruments owe their names to the French language.

The English language has considerably contributed to the medical terms, and these contributions can usually be easily explained or translated.

In isolated cases there are still remnants from the Arabic, Hebrew, old high German and Anglo-Saxon, even from the Persian, Hindostani and Japanese, from the languages of the indigenous tribes of Africa and America, which, however, can not be classified under any of the above points. See Hyrtl, The Arabic and Hebrew Languages in Anatomy (Vienna, 1879, Braumueller), and the same author: The Old-German Technico-Anatomical Terms (1884, ib.).

The origin of most barbarisms and new formations is due to the physicians of the Middle Ages. Linguistic mal-formations have also originated with many specialists of the present time—words which, as Hyrtl asserts, are used by nobody except their authors. It is certainly true that with a knowledge of the laws of the language and the construction of words, barbarisms, in the sense of Arnobius—(*Adversus gentes, lib. I*, 59): Barbarismis et solecismis obsitæ sunt res vestræ, et vitiorum deformitate pollutæ, will no longer be possible. Let us hope that our present feeble attempt may contribute its mite toward this object.

Among modern physicians it was especially R. Kossmann, doctor of medicine and philology, who vigorously spoke for purity and correctness in medical language. In his "Kritische Erörterungen zur gynækologis-

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chen Nomenklatur," Berlin, 1896, he says on page 16: "The ever increasing importance of international congresses in recent times has made us more and more conscious of the want of a universal language in the world of science, and in medical journals complaints increase in frequency about the undue haste with which Latin has been discarded, coupled with suggestions of re-establishing it as a universal medium of communication." On the other hand, Professor A. Rose, the secretary of the German Medical Society of New York, has repeatedly proposed that Greek should be generally adopted as the language for physicians and scientists generally ("The Greeks and their Language," 1899), and the same question formed the topic of a pamphlet by Dr. jur. L. Kuhlenbeck, addressed to the "psychic nobility" (geistiger Adel of the German nation (Leipzic, W. Friedrich, 1889). Dr. Rose has rendered us noteworthy services by his contributions to Medical Notes and Queries (New York, April, 1907), by his treatise on Greek Terms in Medical Language, and his Memorial on Technical Medical Language (July, 1907). He writes to me as follows:

"Greek is an old language, developed with logical perspicacity; above all, a language which lives, and is, therefore, capable of further development. This latter fact has been ignored by the medical nomenclators of modern times, who treated Greek as a dead language, disdaining to cast a glance over contemporaneous scientific literature or to confer with Greek colleagues. New words were formed for new conceptions with the aid of the school lexicon, which contains but a portion of the Greek language as actually spoken. Barbarisms in large numbers were introduced into the medical language, causing much confusion. Many of these unscientific new formations do not correspond to the laws of orthography and analogy; many originally correct words were given incorrect meanings, different from what they originally expressed; others are purely hybrid, and others again are superfluous. In the present edition wrongly-formed or wrongly-selected words taken from the Greek have been supplemented by those used in the Greek literature of today, and it is hoped that this new feature may serve to smooth the path to reform in medical technical language." Again Kossmann states: "We can not dispense with Greek root words in the formation of our pathological and surgical expressions. As soon, however, as the established Greek synonyms for pathologic-surgical requirements have once been recognized as necessary, the consequence will probably be that, in the interests of linguistic correctness and beauty, one further step will be taken by establishing pure Greek synonyms for those hybrid terms which it is not absolutely necessary to change. Our attention is with increasing interest once more directed to the partly very valuable writings of the ancients. He who studies and learns to love

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the same, instead of merely glancing through their pages, will find it more and more difficult to put up with pseudo-classic nomenclature side by side with a classic one and to use a linguistic monstrosity smacking of Greek or Latin, for the designation of a scientific conception for which the simple, pure Greek expression is well known and familiar to him."

We conclude with the words of the master of Roman linguistic research (*dietz, Etymol. Wörterbuch,* 5th Ed., Leipzig, 1887, p. 7): "The highest aim to which etymology can lay claim is the consciousness of having acted scientifically."

For the purposes of the Linguistic Introduction and the compilation of the etymologic facts of Roth's Lexikon, the author has availed himself of the following words, aside from the medical authors of antiquity: (Medicorum græcorum opera omnia, græce et latine, Ed. Kuehn, Lips., 1821-30, Vol. 28); Eclogæ physicæ, Ed. J. G. Schneider, Jena, 1800, two volumes; Physici et medici græci minores, Ed. Ideler, Berol., 1842 two volumes; the Glossaries to Hippokrates and Galenos, Ed. Klein, Lips., 1865; Pollux Onomasticon; Hippokrates' Perceptions, selected from the Greek text, translated into German and referred to modern treatment, by Theodore Beck, Jena, 1907; H. N. Anke, Lexikograph. Bem. medizin.-philolog. Inhaltes (Philol. 32); Turkish, Persian and Arabic Grammar by Wahrmund; Armenian Grammar by Huebschmann; Greek, Roman and Byzant. History of Literature by Teuffel, Mueller-Heitz, Christ and Krumbacher; Geschichte der Medizin by Hirschel, Sprengel, Haeser, August Hirsch, 1893; the unexcelled Onomatologia anatomica, by Joseph Hyrtl (Vienna, 1880); Eulenburg's Realenzyclopædie der ges. Heilkunde, third edition (Vol. I-XXVI, Berlin and Vienna, 1894-1901); A Villaret, Handwörterbuch der ges. Medizin (Stuttgart, 1888, second edition, 1899, 1900); the Greek and Latin grammars, by G. and L. Meyer, Hatzidakis, Thumb, Kuehner and Schuchardt; the Leading Principles of Greek Etymology, by G. Curtius; the Greek Etymologic Dictionary, by Pape, Prellwitz, 1892; of the German Language, by Kluge, 1889, and Tetzner, Duden, Bauer-Fromann, 1893; the lexika of Vanicek, Zehetmayr, Suhle and Schneidewin, Kumanudes, Skarlatos, Georges, Woelfflin Ducange Dieffenbach, Diez, Koerting, Sachs-Villato, Muret; Chambers' Etymological Dictionary of the English Language (London, 1884); Sophokles, Greek lexikon of the Byzant. and Roman Per., and many monographs, among which a little German book by B. Schwalbe, Elementary Greek, leading principles of Greek for the introduction of foreign words emanating from the Greek (Berlin, Reimer, 1887), which can be well recommended to the novice, and A. Hemme: Was muss der Gebildete vom Griechischen wissen? Leipzic, 1900, second edition, 1905.

In conclusion I have the pleasant duty to perform to express my heartiest thanks to Dr. Achilles Rose in New York and Basilio Leonardos, M. D., Ph. D., in Athens, for their valuable advice and contributions.

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GENERAL VIEWS IN THE DEFICIENCY OF THE SPHINCTER APPARATUS.

By Byron Robinson, B. S., M. D., Chicago.

[Written for the Medical Brief.]

(Continued from page 394.)

Schucking's operations for prolapse is not yet established, and it seems the bladder would be in great danger of being wounded during operation. Herrick's operation of attaching the cervix to the posterior vaginal wall has made little definite progress; we have not yet learned how to utilize the sacro-uterine ligaments in prolapse. Such operations are but accessories to colpoperineorrhaphy. The advantages of the flap operation are:

1. The ease and simplicity of its performance.

2. It wastes no tissue; if it fails, the patient is no worse than previous to the operation, whereas the failure of a denudation operation leaves serious defects.

3. It is the only operation that restores, in a natural method, the perineal body. The linear cicatrix is split and sutured in the opposite direction. Dr. Emmet's operation unites the perineal wound artificially by uniting tissues not previously connected.

4. It withstands subsequent labors; numbers of our operations have withstood perfectly subsequent labors. Mr. Tait informed me of the same fact in many of his operations.

5. The sutures are not passed through the skin or mucous membrane, and, therefore, are not so liable to suppurate and produce pain.

6. The certainty of healing.

7. The flap operation secures, in the easiest and most convenient manner, the widest possible surface for coaptation and healing of the fasciæ, muscles and adjacent tissues in the median line for support.

8. The pain after the operation, in my experience, is less than after the denudation operation.

9. Tait's flap operation can be practiced successfully where the repeated denudation operation can not be performed, because of loss of tissue and excess of tension.

10. The short time to do Tait's flap operation minimizes shock.

11. The resulting cicatrix is in its natural location and linear, and will thus cause less peripheral nervous disturbance.

12. The stitches leave no cicatrices, and, therefore, will cause no irritation. One can observe one of the best and most practical observers trying to save the column, and trying to perform denudations in the vaginal sulci. The superiority of Tait's flap operation is that it saves all tissue,

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and builds a natural perineum in a natural location, and thus subserves natural forces according to nature's original law, and anatomic structures are not much violated by cicatrices and cicatricial contraction.

A fact not generally appreciated is the neurosis, the neurasthenic condition produced by perineal lacerations. The visible wound is not always commensurate with the suffering. There may be a visible wound, an infection atrium, or simply an over-stretching of the muscle and fascia, which extends and traumatizes the peripheral nerves, producing nervous irritation. The fascial planes which maintain the blood vessels in distinct relation are so damaged that congestion and decongestion of the pelvis frequently arise. Healthy veins should be spiral and uniform in caliber. The laceration of the pelvic fascia allows the veins to be extended and straightened, and become irregularly dilated. This straightening and dilatation produces not only blood and lymph congestion from deficient blood-vessels support, but produce conditions which favor the development of the pathogenic microbes in the genital mucosa. The gynecologist sees many patients with neurotic phenomena, which can only be attributed to perineal lacerations and defects.

When the sutures are tied the newly-formed perineum will look enormously large, but it will soon shrink to the natural condition. After some experience one can do the flap operation so that on healing the linear cicatrix will resemble the old raphe so closely that one can scarcely tell, after six months, that an operation has been performed.

For cystocele the flap operation can also be performed. The flap method is alike applicable to partial and complete perineal laceration. The operation is best demonstrated on complete lacerations.

GENERAL CONCLUSIONS.

1. To cure sacro-pubic hernia (uterine prolapse), perform amputation of the (sharp) cervix; ventral colporrhaphy and Tait's flap perineorrhaphy.

2. The amputation of the cervix is for the purpose of removing the sharp, cervical, conical point; directing the cervix dorsalward; restoring the uterus to normal position.

3. The ventral colporrhaphy is for the purpose of narrowing the vagina; elevating the bladder, directing the cervix dorsalward and the fundus ventralward.

4. The Tait flap perineorrhaphy is for the purpose of restoring the perineum; restoring the obliquity of the genital canal; restoring such a central floor as will efficiently support the rectum, bladder and genitals.

5. If the cervix be not pointed, and retroversion does not exist, amputation of the cervix may be omitted in the above procedure.

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6. If the uterus and bladder be in normal position, and the vagina not prolapsed, ventral colporrhaphy may be omitted.

7. The permanent success of Tait's perineal flap operation consists in extensive flaps (by means of ventral and dorsal incisions), and the forcing into the median line of large masses of lateral tissue for a pelvic floor. These lateral masses are drawn medianward, and secured for weeks by deep sutures of silkworm gut. These deep sutures, six to eight in number, act like splints for three to eight weeks, and, though part of the wound suppurates, the sutures maintain it in coaptation while it granulates and heals.

8. The operations of Dr. Lucy Waite and myself have proved definitely that the rectal sphincters may be practically restored to normal, even after long periods of rupture. One case of thirty-four years' standing, with two previous unsuccessful denuding perineorrhaphys, and a complete laceration of three inches through the rectum was restored to perfect function.

9. The three surgical procedures described will obviate hysterectomy in many cases.

10. This distention of the operation, or the yielding of the union, or the stretching of the parts, allowing prolapse, will depend especially on the flaps, and amount of tissue permanently drawn into the middle line.

11. We especially insist that the better results are obtained by allowing the silkworm-gut sutures to remain in position for from four to six weeks. Should any suppurate they may be removed at any time. Wounds do not heal very firmly under three weeks.

12. We feel decided in stating, from our own experience, that the flap operation should not be disturbed by dressings. The patient should be kept quiet for three days, and then a vaginal douche may be given daily. After the first half day the wound is hermetically sealed by its own oozing. The limbs should be tied together at the knees for twenty-four hours. The bladder will generally require the use of the catheter for two to four days. Morphine injections of one-sixteenth of a grain may be given to quiet pain and induce rest.

13. The dissection of the rectum from the vagina for one to three inches was added from my own experience, as I never saw Mr. Tait do this. This additional procedure lengthens the operation to thirty minutes; Mr. Tait performs his operation in five to ten minutes.

14. The result of the foregoing procedure has been gratifyingly successful for the past sixteen years, in numerous subjects, with Dr. Lucy Waite and myself.

15. The flap operation fits any and every case, for it resplits the old cicatrix, and restores and adds what is required.

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16. In no single case, in hundreds of subjects which I have observed, was the flap operation not applicable.

17. The flap method results in limited scar tissue, as the operative procedure is performed in connective tissue, while cicatrices form in skin and mucosa. In the flap colpoperineorrhaphy the dorsal vaginal wall is to sustain the ventral.

18. In the flap operation the vaginal walls are made to give their full support to the uterus—the dorsal wall sustains the ventral vaginal wall and bladder—also to support and direct dorsalward the rectal wall.

The flap perineorrhaphy has been chiefly revised and introduced to the profession by Mr. Lawson Tait, of Birmingham, England. It is true the perineal-flap operation was performed in various ways by others, as Duncan, Colles, Jenks, Marcy and Langenbeck, but Mr. Tait gave it a new impetus, and also performed it with elbow scissors, and introduced sutures which neither penetrated skin nor mucous membrane. As a pupil of Mr. Tait, for six months, I had ample opportunity to observe his methods of operation. The principle of operation consists of resplitting the old perineal cicatrix without loss of tissue, with fixed coaptation of the flaps. After observing Mr. Tait's methods, I naturally practiced the operation as performed by him and his assistants. About a year later I began to modify the operation by dissecting, cleaving the rectum and vagina from each other for a variable, but long distance (one to three inches), proximal to the pudendum and anus. This modification enabled me to apply it to almost all forms of prolapse, relaxed vaginal wall, or perineal laceration; in short, in all conditions requiring perineorrhaphy and colporrhaphy dorsal. The objections raised against the flap method we found, after fifteen years' trial, were not well founded. One objection is that Tait's flap perineorrhaphy is a "skin operation." If performed superficially it may be subject to the above criticism. However, such criticism can only be applied to imperfect execution. The operator must carefully guard against closing the pudendum excessively. One can easily make an excessive perineum by the flap method. This objection is, as a matter of fact, worthless. Another objection is that the flap method in no way narrows the vagina. This objection will not hold, as the vagina can be narrowed so as to embrace tightly a single index finger. In fact, we can dissect the rectum and vagina from each other for three inches, to the peritoneum, or as high as desired, and narrow the distal third of the vagina as much as the operator sees fit. The proximal two-thirds of the vagina does not require narrowing. Another objection is that it does not approximate the fibers of the levator ani. It is the operation par excellence to unite the deranged, or torn, levator ani fibers, because the dissection is carried beyond the levator ani fascia proximal and distal through the levator ani muscle. In fact, it enables the operator to secure both the le-

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vator ani fascia proximal and distal, which embraces the levator ani muscle. One must secure the levator ani fascia in order to secure the levator ani muscle, which is guarded and embraced by a definite fascial sheath. The flap operation reunites the dorsal vaginal fascial septum without denudation, as Emmet's operation unites it with denudation. Both Emmet's and Tait's operations are based anatomically on the same principle—one denudes, however, and the other does not, but employs a flap to cover the wound. My practice is to cleave, dissect the rectum from the vaagina in the lateral sulci. In the American Text-book of Gynecology, the writer on "Flap-splitting Perineorrhaphy" makes the following absurd statements: "Its field of usefulness is very limited, indeed. Practically, it is applicable to those cases in which only the superficial and most exterior fibers of the perineum are torn." The above views can certainly only be based on imperfect knowledge, execution or observation of the operation. We can affirm that it is one of the most certain and effective of all operations on the perineum. The flap method of colpoperineorrhaphy is the one above all others that enaables an operator to reunite the levator ani fascia proximal and distal with the enclosed levator ani muscle without blind searching, to abolish a rectocele, and to repair prolapse of the uterus. The same writer cited above makes a further statement as ridiculous as the first, that "in no way possible can this operation (flap-splitting) narrow the vagina, abolish a rectocele, or bring together the separated fibers of the pelvic fascia." It is fortunate that this "American" text-book does not represent the views of all Americans. The flap-splitting perineorrhaphy, in the hands of those who have practiced it, has proved absolutely that it will narrow the vagina, abolish a rectocele, and bring together the separated layers of the levator ani fascia proximal and distal with the fibers of the levator ani muscles. Also it securely unites the ligamenta ischioperinei. The flap method is alike useful in partial and complete operations, and in proximalward rectovaginal dissections does all that Emmet does, with no denudations, with a better chance of healing, by avoiding the infectious atrium. Also, like Emmet's operation, Tait's flap-splitting is founded on anatomic structures, and designed to restore physiologic functions. Both operations are permanent surgical procedures. The conception of the flap-splitting operation rests on the pathologic conditions of the wound. If one examines a pudendum with lacerations, he will see linear cicatrices, narrow white lines, which are transverse in dissection. These white lines are healed cicatrices of the old perineal lacerations. The linear cicatrix is healed at right angles to the original wound or rent. Wounds generally heal in the direction of the tear.

On this peculiar condition of the cicatrix being at right angles to the wound is based the flap-splitting method of Mr. Tait. The transverse cicatrix is split and sutured at right angles to itself. It stimulates the

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Heinike-Mikulicz pyloroplasty when the wound is sutured exactly in the opposite direction to its incision. It is the same incision one may employ in varicocele to shorten the scrotum, *i. e.*, incise the scrotum along the spermatic cord for three inches, and then suture the scrotal wound at right angles to the incision, as was practiced in Dr. Senn's clinic. In suturing the split cicatricial wound at right angles to itself we restore the exactly original normal structures of the perineum. By this method the perineum and relations are restored to the normal condition, which will alone stand subsequent parturitions. The patient should be prepared for three days before the operation by cathartics, so that the digestive tract may be thoroughly evacuated. The cathartics should be so administered that all defecation should cease eight to ten hours before the operation. There will then be no feces in the rectum during the operation, nor for some hours subsequent. The patient is anæsthetized, and lies on the back. The instruments useful in this operation are elbow scissors, a handled needle, with an eye in its pointed end, and strong silkworm gut. The silkworm gut should be thoroughly washed with soap and water. The index and middle finger are introduced into the rectum, and the rectovaginal septum is divided in the linear cicatrix. The scissor's point is then forced under the skin of the labia and carried proximalward as far as desired, and clipped. The opposite side is exactly the same. Dorsal incisions are now made on each side of the rectum, and of the length desired. In slight operations the dorsalward incisions are not required. The ventral vaginal flap is seized with forceps and drawn ventralward, while the dorsal rectal flap is seized and drawn dorsalward. We dissect the rectum from the vagina as far proximalward as desired (one and a quarter to three inches). At the same time the lateral space on each side of the vagina is dissected as extensively as is required to make the perineal body. The two fingers of the left hand remain continually in the rectum as a guide. The extent of the dissection is governed by the condition of the parts, the size of the wound, and the object in view; whether it be narrowing the vagina, extension of the perineum, or almost closing the passage for prolapse. With considerable dissection, a few arteries may need clamping; however, the hot irrigation will nearly always be sufficient to check the hemorrhage. If the bulb be cut it will bleed profusely, but sponge pressure will soon check it. If the scissors incise the pudendo-vaginal abscess, the whole gland should be exsected and disinfected, in order to avoid an abscess in the wound.

The second step of the operation is to introduce the sutures of silkworm gut. The two fingers are removed from the rectum, and well-cleansed. The point of the handled needle is introduced at the proximal angle of the wound without penetrating the skin or vaginal mucous membrane, carried along about one-half inch from the distal edge of the vaginal

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flap, and made to emerge from the median raphe. It is then threaded and withdrawn. The point of the needle is again introduced at the upper angle of the wound on the opposite side, forced along the distal edge of the flap about one-half inch from the edge, and made to emerge again on the median line.

It is threaded and withdrawn. This constitutes the first suture. Generally three ventral sutures are introduced in the above manner. To introduce the dorsal sutures (three or four), the index finger should be placed in the rectum as a guide, to avoid passing the needle too close to the rectal mucosa, endangering fistula. The fistula may arise quickly or slowly. If quickly, an abscess will arise; if slowly (two to four weeks), a fistula will arise, and remain a longer or shorter time. In one case a fistula persisted for three years. The dorsal sutures are introduced similar to the ventral. However, they should be deeper, and should thoroughly include the levator ani fascia proximal and distal with the enclosed levator ani muscle. The point of the needle is passed into the edge of the wound, avoiding the skin, and pushed onward to the median line, where the point emerges, is threaded and withdrawn. It is again introdueed on the opposite side, and threaded in the middle. In all cases requiring extensive dissection the needle should be passed through half of the wound only. In the less extensive part of the wound the needle may pass through the whole wound at once. Mr. Tait employed three of five sutures. We employ five to seven or eight sutures.

The third step is to tie the sutures of silkworm gut; all the sutures at the distal end of the left hand while the right hand forces the tissues of the wound as far toward the loop of sutures as possible. This is a practical step, as it narrows and puckers the wound very much, so that when each individual suture is tied it assumes its final location. The sutures should not be tied too tight, as they are apt to cut through considerable tissue. After the sutures are tied, a linear gap of considerable width will exist in the median line, for the sutures do not penetrate the skin, and hence will not draw it in close coaptation. Here some of the inexperienced will be tempted to place a few skin sutures to avoid the gaping of the wound. Be sure not to do it, for they cause pain, and may produce an abscess; when the legs are placed together the edges of the wound will coapt. The ends of the sutures should be left long, and all tied in a single bundle. The after-treatment consists in no dressing or chemicals to the wound. If there be considerable pain, small hypodermic doses of morphine may be used for thirty-six hours. Most patients will require catheterizing, from trauma to the distal ends of the pubic nerves. After forty-eight hours we begin to give two quarts of a vaginal douche evening and morning. The bowels should be moved on the third or fourth day by means of mild chloride, given in small doses (one grain two or three times), and followed by tea-

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spoonful doses of $MgSO_4$. Castor oil, made palatable by saccharine, is the safest and best evacuant. Diet should be regulated and limited for three days before and three days subsequent to the operation. The patient should lie in bed for ten days to two weeks, and afterward get up as she is able. The sutures should be watched. If one becomes loose it should be removed. If none become loose or separate, they may remain for three, four, or even six weeks. Three weeks is soon enough to remove the sutures. The wound heals more firmly with the sutures in for four weeks or more. The sutures act like splints, holding the surfaces in fixed coaptation, avoiding motion, which interferes with perfect union. The sutures often give pain on removing, and it would perhaps be better, in some neurotic cases, to anæsthetize the patient. However, I seldom practice it. Amateurs must be warned not to close the pudendum unnaturally tight, as it might disturb marital relations.

THE EMMET OPERATION.

This operation is in marked contrast to all previous ones for similar purposes, as union of the denuded labia was the first procedure. The peculiarity of Emmet's operation consists in the denudation of the distal median dorsal vaginal wall; bilateral denudation or triangular portions of the lateral sulci of the vagina; in the method of introducing the sutures, which are so arranged that on tying they elevate the prolapsing parts toward the pubic arch, restoring anatomic structures, as the H-shape to the vagina and the normal curve of the vagina. The patient should be prepared for several days by cathartics and daily skin baths. The bowels should be evacuated by eight to twelve passages.

AFTER ALL.

You're the butt of many a joke,
Doctor-man;
We hand you many a poke,
Doctor-man;
But when we're feeling ill
We're not satisfied until
We've partaken of your pill,
Doctor-man.

That your ignorance is great,
Doctor-man,
We very freely state,
Doctor-man.
But when the microbes on us land,
And the germs have us unmanned,
We'd have you close at hand,
Doctor-man.

We meet your bill with squalls,
Doctor-man;
Charge you with needless calls,
Doctor-man;
But if baby's taken sick,
Or Marjorie or Dick,
We forget it mighty quick,
Doctor-man.

So, in spite of all our slams,
Doctor-man.
And our funny epigrams,
Doctor-man.
And though frequently we doubt you,
And say mean things about you,
We can hardly do without you,
Doctor-man.

—*Toledo Blade.*

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CURRENT MEDICAL LITERATURE.

The Indications and Contra-Indications for Curetting the Uterus.

J. Inglis Parsons (*The Hospital,* May 2, 1908) states that the most common symptoms for which curettement is done are those found in menorrhagia and metrorrhagia. The most obvious condition for a curettement is where, after recent parturition or miscarriage, there is persistent or irregular red discharge. This offers a good prognosis except where there is a chorion epithelioma or a miscarriage due to a small fibroid in the wall of the uterus. In the former case, curetting will increase the metrorrhagia, while in the latter curetting will stop the hemorrhage for a time, but it will soon return. Curettement will often cause a sluggish uterus to involute, even though the uterus is empty. In these cases, use the curette cautiously on account of the soft and flabby walls of the ureters; better use the finger instead of an instrument. Where there is a retention of decomposing particles, with pyrexia, do not curette, but irrigate with antiseptic solutions, after gradual dilatation. Remove the fragments afterwards with the finger or lightly curette with a dull curette, after which irrigate once more with an antiseptic solution.

Curetting is practiced in those cases of fibromyoma where the major operation of hysterectomy is refused, in those who have one or two small tumors without any severe symptoms. If this stops the menorrhagia, these women may become mothers, and much good is accomplished by this simple expedient. The curettement will have good effects for only a limited time, however, in such cases.

Curettement sometimes is effectual in cases of adenoma uteri with thickening and great vascularity of the endometrium. The adenoma is apt to recur, if there are several masses of growths somewhat resembling carcinoma. Hysterectomy must then be performed.

Where there is a thin endometrium dependent upon fibrosis, guarded indeed should be the prognosis after curettement, as sometimes a total hysterectomy is needed. Apostoli's treatment is necessary and suitable in private patients who object to hysterectomy.

Retroversio uteri is often the cause of menorrhagia and, of course, it will do no good to curette the uterus if you do not replace the uterus. It is only in long-standing cases, where congestion produced by retroflexion has been active for some time, that it is necessary to curette. Even in these cases, you should replace first and curette afterwards.

Diseased appendages often cause menorrhagia, more particularly when the ovary on one side is diseased. Examine under an anesthetic, curette

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if nothing is found, or open the abdomen and remove the appendage if it is enlarged or diseased.

Leucorrhea is more often than not a symptom. All of the various conditions that lower health will cause leucorrhea, a nasal catarrh, delicate throat, impaired digestion or chronic constipation. Curettement will do good in such cases. If the discharge is yellow, it may mean infection with the gonococcus. Do not curette in such a case, but dilate and irrigate with a mild antiseptic, and swab out the uterus every day with tincture of iodine. Curetting is also of value in cases of anteflexio uteri, associated with dysmenorrhea and sterility, which causes thickening of the endometrium with proliferation of glands, resembling carcinoma. Dilate carefully in such cases, as otherwise you may injure the walls of the uterus and make the dysmenorrhea worse. For inoperable carcinoma of the uterine cervix, curettement is most useful. Thorough and careful scraping, with mopping off the surface with formalin or liquid carbolic is advisable. This stops the foul discharge and hemorrhage for months, followed by improvement in the general health and comfort of the patient.

The Regeneration of Bone From Periosteum.

Augustus Thorndike (*The American Journal of Orthopedic Surgery*, No. 4, Volume V, 1908) reported three interesting cases of periosteal regeneration of bone in little children; one, an excision of the hip for destructive bone disease originally tuberculous; one, an excision of the shoulder where the original malady was tuberculous disease of the shoulder, but where mixed infection played its part in the havoc; the third was one of acute osteomyelitis with a stripping, suppurative periostitis which had denuded the whole shaft of the fibula. In the first two, about one-third of the shaft of the bone was removed with the head and neck, in the third the entire shaft was taken away. The process of regeneration of bone in these cases was well illustrated by the author in a series of radiographs. These X-ray pictures, coupled with the histories of the cases, demonstrate the remarkable regeneration of bone through periosteum. In the first case, the head of the femur was thoroughly softened and separated by suppuration from the neck, and the upper part of the bone at the time of excision was so soft that it could be divided with an ordinary knife. Study of these cases show the following:

1. Acute osteomyelitis in little children may come as a result of septic infection of a tuberculous abscess which has been drained and led to considerable destruction of bone, or it may as a septic infection attack previously healthy bone and be very destructive, destroying the whole shaft. It is a grave complication and demands early prompt surgical treatment. irrespective of the tuberculous process.

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2. In little children osteomyelitis may attack the shaft or the epiphysis; tuberculosis, the epiphysis almost always.

3. It commonly is grafted onto a pre-existing tuberculosis as the result of draining abscesses, and leaving sinuses. It is, therefore, wiser to leave unopened as long as possible most tuberculous abscesses.

4. Rules for the treatment of osteomyelitis have been formulated by Nichols and others. In the acute stage before necrosis of bone occurs, bone drainage by removing a good bit of cortical bone and drilling many holes in the cancellous tissue to facilitate drainage is advisable. In the subacute stage, remove all small discrete sequestra. In the necrosis of the whole shaft from suppurative periostitis Nichols advises free incision and drainage of the periosteum, and waiting six weeks before removing the dead shaft of the bone, excepting where a single long bone like the femur or humerus is attacked, when it is better to wait three or four months for an involucrum to form around it before removing it to prevent shortening; but as experience shows that mere removal of the sequestrum often leaves sinuses which last indefinitely, it is better to remove most of the involucrum subperiosteally, leaving a strip to prevent shortening and folding the periosteum down onto it. It is an advantage apparently to bring the osteogenous face of the periosteum everywhere in contact with itself, as the new-formed bone will then grow from the center as a solid cylinder of bone instead of as a thin-walled tube, which is what occurs if the periosteal walls are left distended with blood clot.

5. Even extensive subperiosteal removal of a large part of the humerus or femur may fail to eradicate tuberculous bone disease, as in the first case here reported, where dactylitis subsequently developed, and in the second case where hip disease subsequently developed. It would seem as if the osteomyelitis rendered the tuberculous inflammation more active and more ready to attack another part of the body.

6. The first shadow of bone deposited by the periosteum is seen five or six weeks after removal of part or all of the shaft of a long bone. After six months firm, strong bone is present, but it continues to grow stronger, as seen in the first case nine years after resection.

This report is an admirable contribution to medical literature, as it practically covers the regeneration of bone in these cases with radiographic control. It shows a truly wonderful provision of nature for repairing the necessary defects left by the surgeon's knife in such cases.

Measles.

E. Ward (*British Medical Journal,* May 30, 1908) records some private cases and 100 cases seen in an epidemic in a country town, illustrating the disease in all its manifestations and showing phenomena in

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regard to onset, type of eruption and complications met with not commonly mentioned in the text-books of medicine. A form of onset which does not generally appear to be recognized is that in which symptoms appear at the time infection takes place, and yet the rash only appears at the end of fourteen days or so, as it would have done had there been no previous symptoms. The writer thinks that this occurs in from 5% to 10% of cases.

The two conditions—measles without a rash, and measles with a rash, but without catarrh—are generally recognized, although Fagge and Pye-Smith doubt the existence of the latter and mention that Eustace Smith takes the same view. The present writer has seen both conditions definitely from time to time.

Symptoms—Prodromal symptoms in the 100 cases were less common than would be expected. In two there was a prodromal urticarial rash, in one a general erythema without urticarial wheals, and in a few there was a fine papular eruption commonly described. General glandular enlargement is a useful sign and it occurred in most of these cases before the rash, though rarely present before Koplik's spots. While the enlargement is in a measure dependent upon the rash (in some cases there was no enlargement until the rash appeared), still the enlargement as well as the splenic enlargement, is due to the general infection.

Koplik's Spots—Those spots are constantly present whenever there is a rash; indeed, they have been found when there was no rash. They must be looked for in bright daylight. They have been variously described by different observers. Ward describes them as looking like miliary tubercles, especially like the fine tubercles seen on the meninges of the brain in tuberculous meningitis, and just as in the case of tubercles, they can best be made out by noting small irregularities in the light reflected from the surface of the mucous membrane. They are seen irregularly scattered over the mucosa of the cheek and gums, and also on the soft palate and fauces. They occur in groups like the blotches of the rash on the skin in measles. There may be a copious outbreak of these spots without any reddening of the mucosa. Of appearances likely to be confounded with these spots may be mentioned a number of small pale projections found normally in the vertical fold behind the teeth where the labial mucosa becomes continuous with that over the ascending ramus of the mandible; also, there is found normally a tiny speck in many mouths on the labial mucosa, about one-quarter inch below the parotid papilla. Small white ulcers due to stomatitis may be mistaken for Koplik's spots. With the outbreak of the measles rash on the body, there is an accompanying stomatitis which reddens the entire mucosa of the mouth, under which the Koplik's spots rapidly disappear.

Character of the Rash—It may be fine, medium and coarse. The fine type may be mistaken for scarlatina and the coarse may be mistaken for simple urticaria.

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Complications—Aside from the classical complications, bronchopneumonia, laryngitis, stomatitis, diarrhea, otorrhea, conjunctivitis, there is a corneal complication which is often overlooked. This is a corneal ulceration, which can be made out by reflected light. This lesion was seen in 2% of the reported cases.

Of the diseases which occur coincidently with measles may be mentioned diphtheria. Ward says that there is a form of membranous laryngitis or pharyngitis met with in measles which is not diphtheria. He thinks that some of the cases of diphtheria, so called, seen in connection with measles are such examples of a non-diphtheritic membranous laryngitis. Measles and chicken-pox have occurred together. Another complication sometimes seen is paralysis of the soft palate, not always due to diphtheria.

Prognosis—Cases with a slowly-appearing rash were severe, and those with a quickly-appearing rash, mild. The finer the type of rash, the severer the case. Measles is usually a mild disease, but it is of importance to forecast the complications like bronchopneumonia, whenever possible.

Immunity of Infants—The immunity of infants under six months of age needs only to be mentioned.

Treatment—Most writers speak of the disease as if there were no treatment at all, but Ward points to the fact that the practitioner who takes an interest in treatment has usually a low mortality, while he who does not has a high mortality. This is not altogether a matter of chance. While every practitioner knows the line of drug treatment for measles, there are three lines of treatment for every disease which are usually overlooked when dealing with measles. They are: first, physical treatment, *i. e.,* rest in bed, warmth, local applications and lastly drug; secondly, there is mental treatment, at present largely in the hands of Christian Scientists. Means should be taken to give the patient a suitable confidence in himself and in his medical adviser, giving him a suitable hopefulness; thirdly, there is social treatment, the creation of a suitable social atmosphere around the patient. The relatives must have confidence in the doctor, they must believe that he understands the case, and that he is doing all that can possibly be done for the patient. With children, mental treatment is practically *nil,* but the social treatment is vital—by strict attention to this, your instructions can be carried out. While this Oslerian equanimity is commendable in all places and upon all occasions, it is vitally necessary when you are dealing with measles to impress upon the public that this is not necessarily a harmless disease, many mothers, particularly among the poorer classes, being liable to neglect their children under this belief. One practitioner had such difficulty in persuading a mother that measles was a disease which needed attention that he threatened to refuse to sign a burial certificate in case a child died with it. The threat of an

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inquest by the coroner was sufficient to make the mother look out for her sick child in order to avoid dealing with the legal authorities.

Indication for Stimulants in Pediatric Practice.

Sara Welt-Kakels (Archives of Pediatrics, No. 5, 1908) discusses the use of stimulants in treating the various diseases of childhood. Laennec was the first to call attention to the pathological changes in the heart in acute febrile conditions; he found, post-mortem, softening and fragmentation of the heart. This has been subsequently confirmed, so that there exists no longer any doubt as to the implication of the heart muscle in some of these disease conditions. A general axiomatic principle under which to work with children is that you should not give cardiac stimulants early in the disease, but should rather avoid the use of any medicaments which depress the heart or derange the stomach. Flatulency or distention of the abdomen will seriously interfere with the heart's action, as will any other measure which will unduly excite the patient. Only when weakness of the heart becomes evident are heart stimulants indicated; the aimless administration of digitalis or strophanthus, and especially alcohol, is not advisable, and often harmful.

Choice and dosage of stimulants for children must be guided by individuality of the patient rather than by any rule of thumb. This must be left to the judgment of the physician; only general principles can be here outlined. Alcohol is the best heart stimulant. It is well tolerated by children. It should never be given at the beginning of an attack of lobar pneumonia, but its use should be reserved to a later period when there is some softness and compressibility of the pulse, just before the pre-critical period. It should be given in moderate dosage in the form of whiskey; for children of one year, two to four grams every three hours, and so on, for older children. Dilute it well with water or milk.

If whiskey is not tolerated, use tokay, sherry or decarbonated champagne. In septic cases, its usage is very beneficial.

In acute fevers, when cardiac weakness really sets in, use digitalis, strophanthus or strychnin. Digitalis must be used cautiously with children, discontinuing its use at the proper time. Cumulative effects are seen in children more than in adults. If quick effect is desired, do not use digitalis, which takes some time to act. Give it when indicated in the form of the tincture, *i. e., a reliable tincture,* one drop for each year of the child three times a day. Strophanthus has no cumulative action, and so is preferred by some.

Strychnin is a useful agent for combating myocarditis, cardiac irregularity with a moderately soft and intermittent pulse. It may be given with whiskey. A child of one year will stand grain 1-200 three times daily. If the condition is very serious, give it hypodermatically, pushing it until

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physiological effects, such as twitching of the muscles of the face and backs of the hands show. It is contraindicated in cases of excitability of the nervous system and in cases with a tendency to convulsions.

Digitalis is useful in chronic cardiac troubles only when signs of failing compensation appear, such as rapid pulse, dyspnea, oliguria and edema. If the pulse rate is lowered, the edema disappears and the kidney secretion increases; it should be discontinued temporarily and given again after an intermission, substituting in its place another heart tonic such as caffein. Caffein sometimes causes sleeplessness in children. Do not use digitalis in chronic heart disease due to a congenital defect, such as communicating ventricles, as it is apt to impede the pulmonary circulation by overfilling of the right ventricle. Recently attention has been called to the use of two new preparations of digitalis—digitalis dialysate and digalen; both may be given in milk or other liquids.

In extreme cases of heart failure, use strychnin, caffein, camphor and whiskey, care being taken not to derange the stomach by admixtures of these preparations. Camphor can best be administered hypodermatically. Strychnin is most useful and prompt in action.

In those cases of pulmonary inflammation attended with small and soft arterial pulse, we have an overcrowded pulmonary circulation, with overfilling of the right ventricle, and left side not receiving enough blood. This causes cyanosis and deficient peripheric circulation, with cold extremities and impairment of respiration; do not use digitalis in this kind of case, but give nitroglycerin. To a child of one year, give nitroglycerin in the dose of grain 1-500. Give also oxygen, or, better, a hyperoxygenated atmosphere, as soon as there is any tendency to cyanosis. If circulation can not be restored and life is threatened from paralysis of the heart from over-dilatation of the right ventricle, as a last resort, a vein may be opened for the withdrawal of blood. Baginsky compares the relief thus afforded to the restoration of respiration by tracheotomy and intubation in stenosis of the larynx. Some interesting cases of recovery following venesection have been reported. Heubner says that children will stand the withdrawal of one-tenth of the entire blood, which again forms one-thirteenth of the body weight—about one one-hundred-and-thirtieth of the body weight.

Baginsky recommends venesection in uremia in children, in nephritis, where there is delirium, suppression of urine, etc. You may replace the blood that is withdrawn by saline infusions of 100 to 200 grammes. This overcomes the convulsions and ameliorates the symptoms.

Hypodermoclysis in pediatric practice is a valuable measure. It renders toxins in the blood less effective; it supplies much needed water to the system. It stimulates the heart and raises arterial tension. Cohnheim and Gruetzner have shown that it stimulates gastric and salivary secretions and that it has a stimulating effect upon the kidneys, thus aiding in the

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liberation of the toxins from the blood. Saline infusions are indicated after hemorrhages, as after ritual circumcision or in typhoid; they are helpful in oliguria, chronic nephritis, infantile atrophy, severe forms of summer diarrhea, infants in cholera infantum, with profuse and exhausting evacuations and vomiting, with slow circulation and threatening thrombosis. Here hypodermoclysis plays an important rôle. Heubner injects daily in these cases of cholera infantum 150 c. c. He says that he has made as many as sixteen to twenty injections in one infant, often with the best results. The fluid for the injection may be a sterile 1% salt water solution; or, instead, natron chlorat 5, natron bicarbonic 5, aqua 1,000.

Congenital Idiopathic Dilatation of the Colon.

J. M. T. Finney (Surgery, Gynecology and Obstetrics, June, 1908) discusses the subject of congenital idiopathic dilatation of the colon (Hirschsprung's disease). This disease was first described by Parry in 1825, and Billard in 1829; later, by Von Ammon in 1842; Oulmont in 1843; Banks, Bunfer and Favalli in 1846; Little and Galloway in 1850; Gay in 1854; Henoch in 1861; first time in this country by Lewitt in 1867; Jacobi in 1870. Then followed the reports of Barth, Peacock, Gee, Bristow, Morris, Fuetterer, Middeldorf, Cheadle, Gaume and others. It remained for Hirschsprung, after whom the disease is frequently called, to give a most classical description of the disease before the Berlin Congress for Children's Diseases in the year 1886, bringing it into general recognition as a disease entity. The disease has been variously called "Megacolon congenitum" (Mya), and "Congenital Idiopathic Dilatation of the Colon" (Hirschsprung). The term "Giant Colon" has been used by Formad, Osler, Futcher, etc.

There are many explanations given for the existence of the disease, but it all seems to resolve itself into a congenital fault, arising in utero, the real cause remaining unknown. The term "idiopathic," therefore, is but a cloak for our ignorance, and must be rejected as soon as a more perfect knowledge of the true nature of the affection warrants it. The affection is essentially a dilatation, and has to do in the majority of cases with the colon, especially the sigmoid flexure. Cases occur in infancy (true megacolon) and others occur in adult life (pseudo megacolon). Some claim that that form occurring in adult life is not a true megacolon, but is simply due to aggravated constipation, a coprostasis pure and simple. The other observers, maintaining the congenital character of all cases, claim that the form occurring in adult life is but the delayed manifestation of a congenital defect, and has been brought out by atony of the bowels incident to the time of life.

Finney reports a complete history of one case, which may well serve as a type of the disease and illustrates the essential points about Hirsch-

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sprung's disease. This was a boy of 9 years, with immensely distended abdomen, ribs prominent, the costal angle very wide, chest much larger at the base than at the apex. Pleural cavity was encroached upon by the diaphragm, due to the abdominal distension. The superficial abdominal veins very prominent; at times, marked peristaltic waves were seen traversing the abdomen. There was a history of chronic constipation; in fact, his bowels had never moved normally, a cathartic or enema always being necessary. At times of extreme constipation, he had severe pains in the abdomen. An exploratory incision was made and the diagnosis of idiopathic dilatation of the colon confirmed; the enormous dilatation of colon filled up the entire abdomen, with the exception of the right iliac fossa. The dilatation began abruptly at the hepatic flexure, involving the transverse and descending portion of the colon, and the entire sigmoid, with the exception of the last two or three inches, where it as abruptly ended. The rest of the tract was normal. The greatest dilatation was in the region of the sigmoid, amounting to fourteen cm. in diameter. The walls of the intestine were thickened with pigmentation of the hypertrophic portions. The mesosigmoid was elongated and enormously thickened, in places as much as two to three cm. The vessels were much larger than normal, as were the lymphatic structures, especially the lymphatic glands, some of which were as large as almonds. A colostomy was performed and the colon at the hepatic flexure was sutured to the parietes. The colon was frequently irrigated after the operation and a great deal of feces washed out. Great improvement in the boy's condition followed. Owing to some accumulation of fecal matter in the dilated colon, some five months later it was decided to short-circuit the bowel. The abdomen was opened and it was found that the dilatation had shrunken to some extent. Lateral anastomosis was performed between the ascending portion of the colon and the lower portion of the sigmoid flexure, postponing the resection of the dilated portion until a later operation, owing to the patient's condition. Some six months after this operation, the abdomen was again opened and the dilated portion resected. The previous colostomy was found in excellent condition. The raw surface of the mesocolon was left undisturbed. The artificial anus at the hepatic flexure which was originally made as a safety valve was later closed under local anesthesia. The boy is now, one year after, in excellent condition, apparently a normal boy in all respects excepting the widening of the costal angle.

In short, this is the clinical picture of the disease: Obstinate constipation and an enlarged abdomen in a patient otherwise in perfect health. This constipation usually sets in at the time of birth. Extreme difficulty in evacuation of the bowels is characteristic of this disease. Unusual postures, assumed by the patient during the act of defecation or passing of gas, are reported by a number of authors, such as leaning over the back

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of a chair, standing on the head, knee-chest position, etc. Just as abnormal as the dilatation of the abdomen, is the length of time during which in many patients there is no stool—frequently there is a history of no stool for a week, a period of five weeks (Johanessen), six weeks (Roth), nine weeks (Rolleston and Hayward), and three months (Gay). Then this constipation may alternate with diarrhea. The facies is dull, apathetic, skin dry, harsh, leathery, except over the abdomen, where it is tense and shiny. The abdominal walls are thinned out and peristaltic waves may be seen. The abdominal distension is not always uniform, the intestinal coils sometimes being piled up upon one side, especially upon the left side. Fecal masses may be felt upon palpation. At times, the entire mass may be soft, and there is a singular absence of pain. The borborygmi may sometimes be heard in an adjoining room. The fecal matter is characteristic, sometimes dry and inspissated, sometimes putty-like, yellowish green and with a peculiarly offensive odor. Edema of the lower extremities is common. Owing to pressure, encroachment upon other organs, we may have symptoms of dyspnea, interference with heart or lung action. Kidney functions do not seem to be influenced by this encroachment.

The prognosis is influenced by age; the younger the patient, the more unfavorable the prognosis. Intercurrent affections, owing to the debilitated state, often carry off these patients.

The treatment is medical and surgical. Medical treatment consists in giving the remedies usually given in chronic constipation, cathartics, enemata, rectal tube, massage, electricity, exercise, regulation of diet, etc. The surgical treatment varies with different operators, colotomy, colostomy, colopexy, all being successful in individual cases.

Entero-anastomosis have given good results in most cases. In the case reported by Finney, the entero-anastomosis, even with a persisting fecal fistula, failed to prevent the continued accumulation of feces in the distended loop. Finney's procedure differs from the technique commonly practiced in that the preliminary fecal fistula was made in healthy bowel above the distended loop. The series of later operations proved eminently successful.

THE SALICYLATES IN DIAGNOSIS AND TREATMENT.

A. Haig (*Med. Record,* December, 1907) says that in many local troubles, such as fractures of bone or old scars in fibrous tissues which generally react to changes of weather and season by some increase of local irritation or pain, the application of a little oil of wintergreen will often suffice to relieve the patient and give a key to diagnosis.

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EDITORIAL

SHOULD DOCTORS PATENT THEIR ORIGINAL DEVICES?

The code of ethics declares that "It is derogatory to professional character for physicians to hold patents for any surgical instruments or medicine." (Chapter II, Article I, Section 8). Until this prohibition is removed, it stands to reason that no member of the so-called "organized" profession will have the temerity to patent any instrument devised by him, for to be declared "unethical" is equivalent to expulsion from his home medical society and ostracism at the hands of his professional friends, with all the disadvantages resulting from the same. While this iron-clad law of the profession effectually prevents the securing of letters patent by any medical man in good standing for as long a time as the code of ethics shall rule, nevertheless so far as we know the code *has not yet* prohibited the right of free speech, and therefore, we trust, without giving offence, we may be permitted to express the opinion that this prohibition against the securing of patents for surgical devices is illogical and is operating as a hindrance to the good of humanity.

Upon the closest investigation and analysis, we find that the sole objection to the patenting of medical and surgical appliances rests upon the idea that ownership in patent rights by physicians would mean individual monetary gain for the particular inventors, which, by some *hocus-pocus* method of reasoning on the part of the original draftsmen of the code medical, is objectionable and not consistent with uprighteousness in professional conduct. Without attempting to analyze the process of logic which led these framers of the code to this strange conclusion, let us closely examine the intent of the law and the law itself upon the subject of patent rights. Under the Constitution of the United States, patents are conferred for "the promotion of the progress of science and the useful arts by securing for limited periods of time to authors and inventors the exclusive rights to their writings and discoveries." That is to say, the sole purpose of the enactment of patent laws is to promote the progress of the liberal arts and sciences to the end that humanity may be thereby the better enabled to keep up the fight for existence. There is no possibility of misconstruing the plain purpose of the law; there is no intent at conferring particular monopolies upon individuals for the purpose of individual gain, like the practice in England in olden times of rewarding favorites of the Crown with exclusive supervision and control of certain branches of trade. The only intent in the patent law is to help humanity by stimulating those with inventive minds to devise and originate appli-

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ances and contrivances which will promote the welfare of the nation by helping the progress of the useful arts and sciences. This thought should be constantly kept in mind in the debate upon this question. With this thought in mind, let us inquire if there is any objection to the patenting of a piece of machinery which will be used in the manufacture, say, of flour? The answer is, of course, no. Is there any objection to a doctor securing such a patent upon such a piece of machinery? No. Is there any objection in the ethical code for the copyrighting of a medical book? No. Is there any objection in the ethical code to a surgical instrument manufacturer (a non-medical man) protecting certain electrical apparatus for therapeutic usage by letters patent? No. Is it unethical for a medical man in good standing to use such a patented article? No. This leaves the position of the exponents of the code in a "shaky" condition; they admit that it is right and proper for certain lay individuals to secure patents upon articles intended for professional use—conceding that such patent rights are for the benefit of humanity—and yet they deny to their own brethren the privilege which they freely accord to others. The objection, as we have said in the beginning, rests entirely upon the question of individual gain. In order to be consistent upon this point, every medical man should practice his profession free, he should make no charge for service, or, if say "half-way" consistent, he should accept an "honararium" and never render a bill for services. He should hark back to the days of old when the mention of sordid "money" to a physician was equivalent to dishonor. Now, who nowadays, even the most fanatical of the "code-believers" would advise this Utopian gratuitous practice of medicine? And yet, there is no more valid objection to the gaining of money through the ownership of a surgical instrument patent than in the ownership of money obtained from the performance of a surgical operation. If in the one case the money is "tainted," it is equally "tainted" in the other. The position of the profession on this point is out of tune with modern progress.

The position of the medical profession in supporting and maintaining that part of the code of ethics relating to the patenting of medical and surgical appliances is illogical, not altruistic and is operating in a manner detrimental to the public welfare. It is illogical for the reason just stated. It is not altruistic because this very prohibition at patenting medical and surgical appliances has made the medical profession apathetic, except in a few cases, concerning the designing and modeling of new ideas and thoughts. There can be no justification in any ethical code, whether medical or that of any other profession, which operates against the public good. Those who created the constitutional privilege of patent existence and ownership were better exponents of economic considerations than those ancient and honorable draftsmen of the code medical. Considera-

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tions of economics should easily outweigh considerations of class "ethics" and rules of conduct framed in the dark periods of medical history. Eventualities constitute bases for argument in this case as in all cases, and if the continuance of this illogical and arbitrary rule of the code of medical ethics means obstruction to the fullest development and fruition of everything framed and aimed to benefit to the fullest extent all of the people for all future time, then it is timely and eminently proper to throw aside this mediæval yoke and let medical and surgical appliances be patented without subjecting the patentee to that excommunication so much dreaded by the serious practitioner—an excommunication which, if pronounced for this cause, to all non-professional men would be tantamount to the conferring of an honor instead of an abasement, as most medical men would view it.

Besides, under the present system of devising surgical instruments by medical men and gratuitously presenting them to the surgical instrument manufacturers, the medical profession is continually operating under great disadvantages. If, for instance, Dr. A. devises a complicated instrument, he turns the model over to some manufacturer who puts it out upon the market as "Dr. A.'s Special Hæmostat," for example. There is nothing to prevent any interloping competing manufacturer from making the same instrument and giving it the name of "Dr. A."

Now if the second or the third or the fourth interloping manufacturer happens to be located in a far-distant city from where Dr. A. lives, the chances are that the original model is not and can not necessarily be followed, and the consequence is an instrument is offered to the profession not at all like the original devised by Dr. A. The practicing physicians purchase the instrument from the interloper, and upon strict investigation find that it does not do what its originator has claimed it would do in his writings descriptive of the instrument. The instrument is accordingly consigned to the shelf by the men who have obtained a base imitation of the original, and the name of Dr. A. is received with derision when his particular and pet instrument is mentioned. Is this an argument, or is it not, against the present system of not patenting instruments?

Again, the fact that surgical instruments are not patented articles, does not mean that the surgical instrument manufacturers who get the ideas for nothing from the doctors, furnish instruments at a lower selling price than would be the case were the instruments all patented. On the contrary, the price is higher than it would be under a patent right. And, as we have just pointed out, the doctor often buys an instrument at a fancy price which is not at all the designed instrument that he is looking for, as he finds to his cost after trying to use it. All this and more could be told and retold to show that doctors are acting to the detriment and injury of both their own and humanity's interests in opposing the patenting of instruments. The only possible beneficiary of the arrange-

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ment as it stands is the interloping manufacturer. Is it sensible that we legislate for his benefit?

THE A. M. A.'S ENTRANCE INTO POLITICS AND ITS DANGERS TO THE PROFESSION.

The proposition advanced by Dr. C. A. L. Reed at the banquet of the American Medical Editors' Association, that the A. M. A. should enter actively into politics with the purpose of securing the election of as many members of the association as possible to Congress and the State Legislatures, and the almost simultaneous announcement of his own candidacy for the United States Senate from Ohio, have been received, as might have been expected, with much enthusiasm, at least by the association organs and officials.

We do not believe, however, that Dr. Reed's proposition or his candidacy will appeal with any considerable force or favor to the right thinking men among the rank and file of the profession, in or out of the A. M. A. It will be regarded as the result of a perverted conception of the proper relation which the medical man holds toward the general public, and can not subserve the best interests of either the profession or the people as a whole.

Nor is the idea a spontaneous one, as the uninformed might imagine from the enthusiasm which it has, apparently, all of a sudden, evoked. The fact is, it is but part and parcel of a scheme long ago hatched out by the clique at Chicago to secure legislation that will give to themselves complete power and control over the practice of medicine in this country.

If the movement could be recognized by our legislative bodies for what it really is—if it could be known by these bodies that only a few selfish, political doctors are responsible for it, it could do no particular harm. But, unfortunately, such is not the case. It will be made to appear as the action of physicians as a class, and thus have an influence out of all proportion to the number of doctors who favor it. Dr. Reed is fully aware that the public will so regard it, and probably so intends, for in his report as Chairman of the Legislative Committee at the A. M. A. meeting of 1905, he said: "The championship of a measure by your committee is accepted by Congress as the championship of the A. M. A., which, being the representative organization of the medical profession of the United States, *makes its voice, in effect, the voice of the entire profession.*" The matter, therefore, becomes of importance to every physician who resents this attempt to place him in a false position, and who is not willing to put into the hands of a few politico-medical men the power to dictate to him how he shall practice his profession, and, indeed, to say whether he shall practice it at all.

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But there is still another aspect of the case which, though it does not bear directly on the practitioner, is likely to affect him even more seriously in an indirect way. It can not be expected that the public will not, sooner or later, be informed of these attempts of the A. M. A. leaders to secure special legislation. It will require something more than bare assertions to convince the people that those who are seeking this legislation are influenced entirely by philanthropic motives; and, holding doctors as a class to blame for the conduct of these few, there is danger of a reactionary movement, which may result in the refusal to enact even just and salutary medical legislation, if it does not lead to the repeal of all such laws as are at present on the statute books, leaving the profession with no protection at all. Already there is a growing distrust of physicians, and even of the science of medicine itself, all over the country; of which the rapid rise of so-called Christian Science, Osteopathy and other similar cults are but symptoms. Conduct such as we have described, on the part of medical bureaucracy, will cause this distrust to ripen into resentment, and, eventually, into a system of reprisal. And thus the 150,000 physicians of the country will be made to suffer for the high-handed and autocratic doings of a small but powerful ring.

There is, of course, no reason why a physician can not rightfully aspire to any public position. But he should do so, not as a physician, but as a man and a citizen—as the representative of the people in general, and not as the agent of a particular clique or class.

One of the prime purposes of popular government is the maintenance of the equal rights and interests of all. And though public sentiment is slow to move, yet when the people are once aroused to the fact that some particular class is attempting to obtain special privileges by the force of law, or otherwise, they are quick to show resentment, oftentimes in an angry fashion. We, therefore, think that Dr. Reed's proposition and his candidacy constitute a menace, not only to the material interests of the physicians of the country, but to the science of medicine as well.

Dr. Reed asserts that our legislative halls are "water-logged" with lawyers, while only a few doctors are found therein. The statement may be true. But there is no record that these lawyers sought or obtained their election on the ground that they *were* lawyers, or with the avowed purpose to secure special legislation in the interest of the legal profession. If they had been guilty of such folly, there would not be enough of them in public life to give ground for Dr. Reed's complaint. There are good reasons why more lawyers than doctors are elected to our legislatures. Their training, education and experience all tend to fit them specially for such positions; in fact, official distinction is in line with the lawyer's ambition. Besides, entrance into politics does not seriously interfere with the

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practice of his profession; on the other hand, political distinction often adds to the reputation of a lawyer and brings him clients. It is not so with physicians. The faithful practitioner, as a rule, has little time to devote to politics, and his reading and study lead him in an entirely different direction. He can not accept any kind of a public office without personal sacrifice and without neglecting, in some degree, his medical practice. His business and his reputation, therefore, are bound to suffer, more or less, when he neglects them to enter into the scramble for office.

With Dr. Reed's personal candidacy we have little concern. He may or not be a fit person to represent Ohio in the Senate. It may be, to quote from his letter to the public announcing his candidacy, that he is the "plain citizen," whose "elevation from the ranks of the people to the high office of United States Senator would be a wholesome precedent in the republic." We shall not attempt to deny all this. Yet when the public becomes aware that he is seeking election to this high office as the representative of a class, it is apt to arouse a feeling of indignation, which will work damage, not to Dr. Reed and his supporters only, but to the entire medical profession.

RECIPROCITY BETWEEN THE LICENSING BOARDS OF THE DIFFERENT STATES.

Medical graduates who have not located, and physicians who are contemplating a change of location, are constantly making inquiry concerning the matter of reciprocity between the different State Licensing Boards. The following facts answer the larger proportion of inquiries made. They are taken from the *State Bqard Journal of America,* and are therefore probably reliable:

Colorado reciprocates with States offering equal standards of education and moral qualifications.

Connecticut reciprocates with States giving an examination equivalent to its own requirements.

Delaware reciprocates with New Jersey, Virginia, Illinois and Maryland.

District of Columbia reciprocates with States of equal requirements.

Georgia reciprocates with States requiring same standard and recognizing Georgia certificates.

Illinois reciprocates with Iowa, Indiana, Kansas, Maine, Michigan, Minnesota, Nebraska, New Jersey, Ohio, North Dakota, South Carolina, Wisconsin and Virginia.

Indiana reciprocates with Michigan, Wisconsin, Nebraska, Nevada, Ohio, Iowa, Kansas, Illinois, Maine, Kentucky, Maryland and New Jersey.

Iowa reciprocates with Colorado, Wyoming, Nevada, Kansas, Nebraska, New Jersey, Maine, Delaware, Maryland, Virginia, South Carolina, Georgia, Michigan, Illinois, Indiana, Ohio, Missouri, Kentucky, South Dakota, North Dakota, Michigan and Wisconsin.

Kansas reciprocates with States whose standards for qualifications for practice are equivalent to her own.

Kentucky reciprocates with District of Columbia, Georgia, Illinois, Indiana, Iowa, Oklahoma, South Carolina and Wisconsin.

Maine reciprocates with States whose standards of education are equivalent to her own in all respects.

Maryland reciprocates with Delaware, District of Columbia, Georgia, Illinois, Iowa, Indiana, Kansas, Maine, Michigan, New Hampshire, Nebraska, Ohio, Ore-

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gon, South Carolina, Texas, Vermont, Virginia, Wyoming and Wisconsin.

Michigan reciprocates with Georgia, Illinois, Indiana, Iowa, Kansas. Kentucky, Maine, Minnesota, Missouri, Nebraska, Nevada, New Jersey, New York, North Dakota, Ohio, South Carolina, Virginia, Wisconsin and Wyoming.

Minnesota reciprocates with Illinois, Iowa, Kansas, Michigan, Maine, Maryland, Missouri, Nevada, New Jersey, Nebraska, Ohio, South Carolina, South Dakota, Wisconsin and Wyoming.

Missouri reciprocates with States whose standards or requirements are equal to her own.

Nebraska reciprocates with Michigan, Indiana, Iowa, Maryland, Minnesota, Georgia, Wisconsin, Kansas, Illinois, Ohio and Wyoming.

Nevada reciprocates with Indiana and Texas.

New Hampshire reciprocates with States whose standards are equal to her own.

New Jersey reciprocates with States whose education, examining and licensing requirements are equal or excel her own.

New Mexico reciprocates with States having like requirements.

New York, New Jersey, Michigan and Ohio have made a reciprocity arrangement based on an examination made by any one of these State Boards.

North Dakota reciprocates with States maintaining standards not lower than her own.

Ohio reciprocates with Illinois, Indiana, Maine, Maryland, Michigan, Minnesota, Nebraska, New Jersey and Wisconsin.

South Carolina reciprocates with State of equal requirements.

South Dakota reciprocates with States having equal requirements.

Utah reciprocates with States having an equal standard.

Vermont reciprocates with Maine, Maryland, Michigan, New Jersey, North Dakota and Wyoming.

Virginia reciprocates with District of Columbia, Georgia, Illinois, Indiana, Iowa, Kansas, Kentucky, Maryland, Michigan, New Mexico, North Dakota, Ohio, Oklahoma and South Carolina.

Wyoming reciprocates with States having equal requirements and issuing licenses on the same terms.

BOOK NOTICE.

HEART DISEASE AND BLOOD-PRESSURE.—A Practical Consideration of Theory and treatment by Louis Faugeres Bishop, A. M., M. D.; Clinical Professor of Heart and Circulatory Diseases, Fordham University, School of Medicine, New York City; Physician to the Lincoln Hospital; Late Chairman of the Section on Medicine of the New York Academy of Medicine; Member of the New York Pathological Society; the Neurological Society; Alumni Association, St. Luke's Hospital, etc. New York: E. B. Treat & Company, 241-243 West Twenty-third street. Second Edition, Enlarged, 12mo, Cloth, Postpaid, $1.00.

This excellent work, now in its second edition, treats of the subject of cardiology in its scientific and practical aspects. The subject is presented in a clear and instructive manner, both in the text and in the apt illustrations. It will be found very useful by the medical profession.

CLINICAL NOTES.

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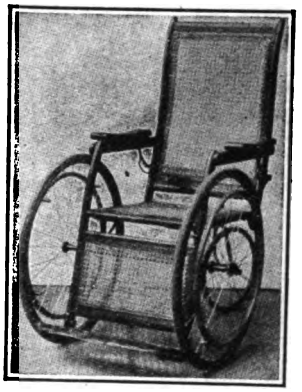

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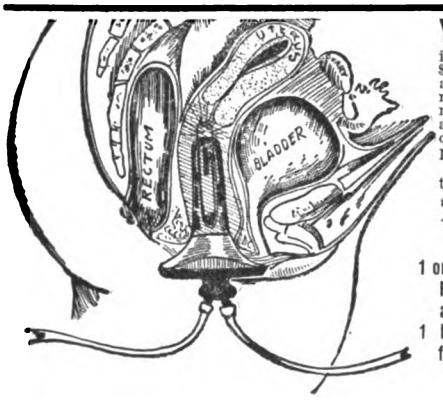
SUPPORT TO PREVENT SCOLIOSIS.

At the triennial meeting of the Society of Physicians and Surgeons, at Washington, Dr. Eisenberg, of Pennsylvania, called the attention of the profession to the importance of the prevention of scoliosis, after unilateral rib-resection, for empyema. In his opinion a support to the back and side should be used in all cases, as patients are often found with the shoulder of the affected side drooping and lateral curvature developed, from not only the lack of support due to the loss of bony tissue, but also to pleuritic adhesions. By having the proper support this condition will not occur. The form of brace he advocated is a firm splint for the spine and side pieces, giving longitudinal lifting power from the iliac crests to under the arms, and to the sides of the chest-walls. The straps fastening the support in front should be elastic to allow for free respiration. An appliance well adapted to meet these requirements is made by the Philo Burt Manufacturing Company, of Jamestown, New York, and has been used with very good results in the cases in which it has been tried.



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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., SEPTEMBER, 1908. NO. 9.

THE MAYO SURGICAL CLINIC AT ROCHESTER.

BY R. B. H. GRADWOHL, M. D., St. Louis, Mo.
Editor of the MEDICAL BRIEF.

[Written for the MEDICAL BRIEF.]

The fame of the Mayo Brothers as successful surgeons because of their thorough "system" of diagnosis-making and brilliant operation performance and the universal praise from brother practitioners who have visited their institution impelled the writer to make a pilgrimage to Rochester, Minnesota, during the early days of July, 1908. Rochester is a town of some 7,000 people, situated in the southeastern part of the State of Minnesota, some 350 miles due west from Chicago and some 100 miles south of St. Paul. For those contemplating a trip to this surgical Mecca, we would advise going by way of Chicago, provided one is traveling from the south, southwest or east. One can travel away from Chicago at eight o'clock in the evening and arrive at Rochester about nine o'clock on the following morning. On arriving at Rochester, most excellent hotel accommodations may be found. There are two hotels in Rochester, the Cook House, an excellent hostelry, with good cuisine, reasonable rates, and the Kahler, which is a combination sanatorium and hotel, for there many of the ambulant surgical cases are sent after sojourning in the hospital. You will be pleased with the accommodations in either place.

It was found that the work in Rochester is divided into two divisions: first, the "diagnosis-making," which is done by the Mayos and their staff at their offices, situated in the town, near the hotels, and secondly, the operative work, which is done at St. Mary's Hospital, a beautiful surgical hospital of some 150 beds capacity, situated on the edge of the town, well away from all noise, and commanding an excellent view from its windows of the verdant, rolling country and hilltops of fair Minnesota. The system of work in the two places, consultation room and operating room, is about as follows: During the forenoon, while the Mayos are operating at St. Mary's Hospital, the new patients are being examined in the consultation chambers by the special diagnosticians of the staff, headed by Dr. Christopher Graham, a thoroughly capable and wonderfully discerning internist. This staff numbers, I believe, among other specialists, two in-

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ternists and their assistants, an ophthalmologist, rhinologist, rœntgenologist, cystoscopist, medical chemist, and several pathologists and bacteriologists. Patients are assigned by a young woman nurse to the respective departments of medicine under which their particular ailment is classified and thoroughly examined, beginning with a thorough examination at the hands of the internist. The examinations of new patients are conducted all through the forenoon by the staff, and in the afternoon the Drs. Mayo come down from their hospital and survey the patients; in a word, making the last analysis after their staff officers have laid before them their several reports. In this way each patient is given a careful examination, and, if the case proves surgical, the Mayos are in the position of head of the diagnosticating staff and give out their opinion *pro* and *con*. as to the need for an operation. This system of examination affords the Mayos ample opportunity to spend a large part of their time at the actual work of operating and at the same time assures the patient a close, careful and exhaustive examination at the hands of men specially trained for their work. The method is time-saving, essentially good for the patients and essentially valuable for the operating staff.

In next order, possibly I should say something concerning the preparation of patients for operation at the Mayo Institution. For much of this information I am indebted to a publication of Dr. Robert Smart, of Washington, D. C., who issued a small pamphlet setting forth this phase of the work at Rochester. I shall also later borrow from his pamphlet some facts concerning the after-treatment of the cases. "The patient generally enters the hospital the day before the operation, and is allowed a regular diet; exception is made to this rule only in cases of stomach diseases, in which the diet is restricted to eggnog, toast, tea, fruit, etc. The night before the operation, the patient is bathed, shaved and given two ounces of castor oil in a little beer. No food or drink is given on the morning of the operation. Gastric cases have the stomach washed out with warm water and are given hypodermically one-sixth grain of morphine about half an hour before going to the operating room. In goiter cases one-sixth grain of morphine and one one-hundred-and-twentieth grain of atropine is given a half hour before the anesthetic. When placed upon the table, the site of operation is washed with warm water and Jumbo soap (this is a soft, very alkaline soap containing pumice stone, manufactured by Graham Bros., of Chicago), a soft pad of gauze being used in scrubbing instead of a brush to avoid injury to the skin. This is followed by a solution of bichloride, 1 to 2,000, after which a gauze sponge wetted with Harrington's solution* is left on the surface for about thirty seconds.

* Harrington's Solution—

Mercuric Chloride	3.20 grams.
Hydrochloric Acid, C. P.	240.00 grams.
Distilled Water	1200.00 grams.
Alcohol	2560.00 grams.

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"This solution is an effective germicide. It is afterwards washed off with 70% alcohol. The patient is then covered with sterile towels and is ready for the operation."

As for the operators' preparation, we noted that they were dressed in white suits, wearing also a gown, a sterile towel pinned over the chest, with long sleeves which are pinned also onto the gown and removed after each operation. The gown is not changed. The towel pinned over the chest is changed at each operation. The head and face are covered with the ordinary gauze protection, adjusted before the hands are prepared. I saw rubber gloves used in all the operations; these gloves are boiled three minutes before using. The hands and arms are prepared by thoroughly washing with Jumbo soap and hot running water, dried with sterile towels. Particular attention is paid to the finger nails, especially about the cuticular edges. The hands are immersed in Harrington's solution for about thirty seconds, then rinsed in alcohol. The arms are bathed in bichloride solution, 1-5,000, and the gloves put on while in this solution.

All instruments are sterilized by boiling in alkalinized water (soda) for at least three minutes. This includes not only cutting and metallic instruments, but dishes, glasses, trays and anything brought into the operating room for whatever purpose. All drains are sterilized by boiling in the same manner as the instruments, except rubber tissue, which is soaked in bichloride, 1-1,000, and washed off with sterile water. Dressings, sponges, towels, gowns, hoods, pads, etc., are sterilized by steaming for two hours in a Sconlon-Morris apparatus.

There are two operating rooms in St. Mary's Hospital, one generally used by Dr. W. J. Mayo, and the other by Dr. C. H. Mayo. Between the two rooms is a kind of sterilizing chamber where instruments, etc., are prepared. These rooms are located upon the top floor of the hospital building, with skylight effects and glass side facing the north. There is a kind of gas-pipe platform running along two sides of the room, upon which physicians visiting the clinics stand and obtain an excellent view of the operations. I might say here that all graduate physicians and nurses are welcome to attend these clinics, uniform courtesy and kindness being accorded to everyone from the Drs. Mayo down to the last assistant. Outside the operating room there is a waiting room for the visiting doctors. When the operating room of Dr. W. J. Mayo is ready, a buzzer announces this fact and the visitors file into the room. When Dr. C. H. Mayo is ready to operate in *his* room, a warning from the buzzer brings in the visiting doctors. The patients walk into the operating room, except those who are not "walkers," and these are brought in on a moving table and are anesthetized in the operating room. The anesthetics are given by especially trained nurses who devote their entire time to this work. These women anesthetists are preferred by the Mayos to men,

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for the reason that not being doctors, they are more apt to concentrate their attention on their part of the work and are not attracted by the interesting surgical disease or the interesting operation, as most male anesthetists are prone to be. Ether seemed to be the anesthetic of choice in this institution. It is given by the drop method, on a large mask, with moist cloths surrounding the mask. As I saw it given here, I can not praise too highly the skillfulness of the two anesthetists, Misses Hines and Henderson.

As soon as the visiting doctors are in their places, an assistant reads a brief history of the case. The operator then begins his work, at the same time discussing some salient features of the case and explaining his work as he goes along. These two gentlemen, Dr. W. J. Mayo and Dr. C. H. Mayo, vie with each other in bringing out the essential anatomical, physiological and pathological aspects of their work. They tersely and succinctly detail the surgical landmarks and demonstrate the lesions found so that everyone present gets a splendid idea of the particular case. These clinical lectures bring out points in surgical anatomy and physiology in a way so plain and forceful that one marvels at the barrenness of text-book literature on such matters. The Mayos also call attention to the number of cases of each surgical disease upon which they have operated and give the actual statistics of results. I shall give in detail later on in this article verbatim accounts of these talks, so that the reader can obtain somewhat of an idea of what is said in the operating theater at St. Mary's Hospital.

As for the technique of these operators, it can be said that it is simple and yet representative of the boiled-down essence of the technique of all the masters of surgical work, enriched with the original ideas and devices of the Mayo Brothers. They use an operating table with a swinging instrument tray which comes over the table during abdominal operations, placing the instruments for immediate use within convenient access. The larger part of the instruments are kept on a side table and as occasion requires an assistant brings them over, at the same time frequently replacing by fresh instruments those that have become soiled with blood; small graniteware pans are used for holding the instruments on the tray; these pans are, of course, all sterilized by boiling. A phase of the work which is particularly gratifying to those who are visiting the clinic for the purpose of *seeing* the operative technique is the absence here of the vast horde of assistants that one sees in the majority of surgical clinics, both at home and abroad. The onlooker at most surgical clinics has a beautiful view of the tops of the heads of the assistants and occasionally sees a bloody sponge or a gaping wound, but he seldom really sees the various steps of an operative procedure. Here at Rochester, however, things are different. Each brother has but one assistant or actual helper

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at the table. The other assistant or nurse stands back and only comes forward to exchange instruments, bring up suture material, etc. The Mayos have apparently found that one highly-trained assistant is better than a half dozen poorly-trained ones. And the remarkable celerity with which these operations are performed is certainly as much a tribute to the assistant's skillfulness, helpfulness and capacity of "anticipation"—the *sine qua non* for a good assistant in surgery—as it is to the surgical ability of the operators themselves. While no time records are sought for in the operative work, I venture to say that not a minute of time is ever lost by the operators and their assistants in this hospital.

A feature which struck the observer as most commendable is the thoroughness in exploration of the abdomen in the work here. I saw them insert the hand through an appendectomy wound (enlarged, of course) and explore in turn the gall bladder, gall ducts, stomach and pylorus (outside, of course), right and left kidney, ureters, uterus and adnexa. Here the great advantage of the *tactus eruditus* was manifest.

Something might be said about the suture and ligature material used by the Mayos. Iodized catgut prepared after the method of Willard Bartlett, of St. Louis, is given the preference. A kind of black Irish linen is the non-absorbable material of choice. Chromic catgut is used in intestinal work, involving mucous surfaces and in locations in which retention is required for longer periods than given by the plain catgut. This gut is purchased ready for use in glass tubes, which are placed in bichloride of mercury solution, 1 to 1,000, and broken when ready to be used. Silkworm gut is generally used for tension sutures and is sterilized by boiling eight minutes and kept afterwards in a solution of one part crystal iodine, forty parts of water and sixty parts of ethyl alcohol.

I wish to describe the method of preparation of catgut according to the formula of Dr. Willard Bartlett, of St. Louis:

"The catgut is first placed upon asbestos at the bottom of a hot-air chamber and dried. Care must be taken to see that the gut does not come in contact with the side of the chamber, which accident usually results in making the gut hard and brittle. In this chamber the temperature is gradually raised to 220° F., at which point it is held for about forty minutes; brittleness results by allowing the temperature to exceed 220° F.

"The gut is now transferred to an asbestos-lined kettle and allowed to soak for twenty-four hours in liquid alboline. The kettle is then placed upon a sand bath, and by gradually increasing the heat through a period of one and a half to two hours, the maximum temperature of 320° F. is reached, at which it is held for an hour. It is recommended to keep the thermometer just below rather than a fraction above this temperature, as brittleness results from this error. It should be suspended to allow the alboline to drop off. It is then kept in glass jars containing one part of

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iodine crystals to 100 parts of Columbian spirits (deodorized methylic alcohol). For those who have not the time and patience to become adepts at making this Bartlett catgut, we can recommend the "Lukens" catgut, which is prepared according to the Bartlett formula and sold in sealed glass tubes, ready for use."*

For a description of the drains used here and the post-operative treatment of the cases at St. Mary's Hospital, I quote from the publication of Smart, already referred to:

"METHODS OF DRAINING AND CHARACTER OF DRAINS.

"1. *The Spiral Drain*—This is made by cutting a rubber tube spirally and twisting it about a double piece of mildly iodoformized gauze, so that the gauze is exposed spirally throughout the length of the drain. This drain is used in those cases in which the lymphatics have been to a great extent removed and large areas of tissue are to be drained, *e. g.*, in glands of the neck, amputation of the breast, etc.; the gauze in these cases coming in contact with the tissues to a maximum extent.

"2. *Split Rubber Drains*—Made by splitting longitudinally a rubber tube and placing in its interior a folded piece of iodoformized gauze, the ends of which protrude slightly from both ends of the rubber tube. This is used for draining cavities, as in goiter, and is the common drain in pus cases. The gauze wick is usually withdrawn on or about the fourth day and the rubber tube left for two days longer, or as long as necessity exists for drainage.

"3. *Cigarette Drains*—Made by wrapping iodoformized gauze in rubber tissue; they are used generally in smaller abscess cavities.

"4. *Glass Drains*—Of different sizes usually from one-fourth to one-half inch in diameter, are used generally where very free drainage of the peritoneal cavity is indicated, usually in conjunction with one of the other drains already mentioned; it is rarely left in place more than twenty-four hours and as it is taken out a rubber tube or gauze wick is usually fed into the wound through it.

"5. *Drainage in Special Cases*—(a) In cholecystostomy (dressed tubes) small rubber tubes wrapped spirally with gauze and enclosed in rubber tissue; this tube is passed into the gall-bladder; a pursestring suture of catgut is then placed in the bladder about half an inch from its incised edge, which is invaginated after the manner of Witzel stomach operation; the same suture is then tied about it again with one stitch taken through the tube to hold it in place, and the end of the suture finally brought through the abdominal wound and suspended to one of the tension sutures of silkworm gut on the outside of the abdomen.

* Sold by Blees-Moore Instrument Company, St. Louis, Mo.

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"(b) *In Cholecystectomy,* a split rubber tube (see drains 2) is used, the split surface with the gauze exposed, being in apposition with the liver surface, the drain being held in place against the cystic duct by the ends of the same ligature, which occludes the duct.

"(c) *In Choledochotomy*—Here several different drains are used. The fish-tail drain; a small rubber tube, cut at one end much as a cigar cutter clips a cigar (V-shaped), is slipped into the cut duct, the slit in tube parallel to the duct, and caught by a catgut ligature passing through the coats of the duct and one edge of the drain. This drains the duct. The gall-bladder is drained by a dressed tube described under 5a. Morrison's kidney pouch is drained with a split rubber drain (see drain 2). The foramen of Winslow and splenic flexure of the colon are drained with wicks of gauze in rubber tissue.

"(d) *In Prostatectomy*—A rubber drain for jointly draining the bladder and prostatic wound.

"The drain is made by taking a rubber tube about six inches in length and about one-half to three-fourths of an inch in diameter and passing transversely through its lumen, about an inch from its upper extremity, a piece of McGraw's ligature about two and a half inches in length and holding it in place by a stitch. About an inch from the lower end of the tube a stab is made in the wall of the tube, and a small rubber tube (about one-eighth of an inch in diameter) is drawn through the opening into the lumen of the larger tube and brought up so as to project out of the upper end. Lastly two holes one-quarter of an inch in diameter are cut in opposite sides of the larger tube under the McGraw ligature. The drain is introduced through the perineal wound and the portion up to and including the McGraw ligature passed into the bladder. This ligature prevents it from slipping out of the bladder; the two holes below drain the prostate wound cavity and the small tube drains and may be used for irrigating the bladder if necessary.

"Regarding the post-operative treatment of surgical cases only the general outline followed in most cases can be given, as each separate case requires its own particular treatment. In what follows below, the fact that it is only the general care of the different classes of cases cited must be borne in mind:

"1. *Appendicitis*—First, clean cases. (The plan here outlined is applicable to all undrained abdominal cases.) The dressings are not removed until the patient is about to leave the hospital on the eighth day (when the horsehair sutures, if used, are removed, and the wound redressed, dry). These cases are kept in bed during the first five days after operation on a gradually increasing diet, nothing being given except small quantities of hot water, during the first twenty-four hours, to which on

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SURGEON'S CLUB, ROCHESTER, MINN., JULY 10. 1908.

BOTTOM ROW SITTING—From Left to Right—Dr. W. T. Gove, Eureka, Kan.; Dr. Oliver Chambers, Rock Springs, Wyo.; Dr. I. B. Oldham, Muskogee, Okla.; Dr. Chas. R. McCreery, Tacoma, Wash.; Dr. J. D. Matthews, Detroit Mich., Pres.; Dr. Rodman, Jr., Philadelphia, Pa.
SECOND ROW IN CHAIRS, SITTING—Left to Right—Dr. Giffin, Rochester, Minn.; Miss Mary Hines, Rochester, Minn.; Dr. F. A. Castle, Meridian, Miss.; Dr. A. F. Jonas, Omaha, Neb.; Dr. C. H. Mayo, Rochester, Minn.; Dr. W. J. Mayo, Rochester, Minn.; Dr. W. L. Rodman, Sr., Philadelphia, Pa.
THIRD ROW STANDING—Left to Right—Dr. Robert G. Marriner, Menominee, Mich.; Dr. R. D. Kennedy, Globe, Arizona; Dr. G. T. Abernathy, Paris, Tenn.; Dr. A. B. Tashjean, Norfolk, Neb.; Dr. D. E. Robinson, Jackson, Mich.; Dr. C. H. Root, Bassett, Neb.; Dr. Geo. A. Miles, Somerville, Mass.; Dr. A. Lewis Druet, Boyden, Iowa; Dr. R. B. H. Gradwohl, St. Louis, Mo.; Dr. Will C. Snodgrass, Kenton, Ohio; Dr. C. B. Dyde, Greeley, Colo.; Dr. I. E. Stennis, McComb City, Miss.; Dr. Wm. H. Corrigan, Hazleton, Penn.; Miss F. F. Henderson, Rochester, Minn.
FOURTH ROW STANDING—Left to Right—Dr. E. D. Pierce, Vancouver, Wash.; Dr. H. M. Freeburg, Watertown, S. D.; Dr. E. T. Edgerly, Ottumwa, Ia.; Dr. H. D. Sill, Cooperstown, N. Y.; Dr. Heikki Koljonen, Jamsa, Finland; Dr. E. B. Wilcox, Oskaloosa, Iowa.; Dr. J. L. Augustine, Ladora, Ia.; Dr. W. Ward, Oelwein, Iowa; Dr. Carl H. Schmidt, Minneapolis, Minn.; Dr. Kriegt, Minneapolis, Minn.

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the second day is added an ounce to one and a half ounces of beer, every couple of hours, alternating with this same quantity of buttermilk.

"On the third day toast, soft boiled eggs and tea are added to the diet, and on the fourth day the bowels, which have not moved up to this time, are emptied by means of one and one-half to two ounces of castor oil. The patient generally is allowed up on the fifth day and leaves the hospital on the eighth.

"(b) Cases of appendicitis requiring drainage. Acute cases with large abscesses are usually drained by means of a split rubber drain (see drain 2) through the incision and glass drain (see drain 4) through stab wound in more dependent portion of abdomen. In smaller collections of pus only the split rubber drain is used.

"The glass drain, when used, is generally removed at the end of twenty-four hours and a gauze wick inserted as the glass drain is being removed.

"The gauze from the rubber drain is removed on the fourth day and the rubber drain itself about the sixth; it is left a day or so longer if on the sixth day there is still much drainage. As a rule, these patients are up on the seventh or eighth day, leaving the hospital four or five days later.

"Except that the bowels are not moved until the drain has been taken out, the treatment and diet of these cases is the same as for the simple cases.

"The point so much discussed as to when to, and when not to, operate in appendicitis, can be only generally stated here, as elsewhere, there are numerous exceptions to any rule made to cover all cases. If a case is received within thirty-six hours of its inception it is usually operated upon; if received after this time, on the third, fourth or fifth day, they were usually carried through the acute stage to recovery or formation of localized abscess.

"Perforation usually occurs within forty-eight hours and within six hours after perforation; if there is still a rise in temperature immediate operation may be of benefit, but never after that time, when the temperature has subsided after rupture. At this time all the damage that can be done has already occurred and a reparative process is in progress, which is not benefited by operation.

"The treatment of these cases is to aid Nature in her process of repair; rest in Fowler's position; nothing by the mouth but hot water. In cases of vomiting, stomach lavage with warm saline. Hot saline by rectum if retained; if not, subcutaneously; hot-water bags to extremities and cold pack over appendix. Within a week by this method localized abscesses have formed, which may be opened and drained and the appendix removed five or six weeks after the resulting sinus has healed.

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GALL-BLADDER CASES.

"In the case of cholecystostomy the drain (see drain 5a) is sutured with catgut to the incised gall bladder and is removed about the seventh or eighth day, by which time the sutures are absorbed. In order to prevent soiling of the dressings, the rubber drain into the gall-bladder is connected with a small rubber tube by means of a small glass tube, the latter rubber tube conducting the discharges into a bottle held in the dressings. In these cases abundant non-absorbent cotton dressings are used, held by plaster and covered outside by a broad gauze binder. The diet in these cases is practically the same as given for appendectomies, save that the return to full diet is more gradual and solid food is not given until after the drain has been taken out and the bowels moved. This is accompanied usually on the seventh or eighth day by giving seidlitz powder or rochelle salts instead of castor oil.

"The patients are up on the ninth day, leaving the hospital about the eleventh to fourteenth day. Dry aseptic dressings are used daily upon the resulting sinus until healed.

"*Cholecystectomies*—The treatment of these cases does not differ materially from the preceding; the split rubber drain (see drain 2) being removed about the seventh day. A point to be noted in these cases and usually occurring about the second day, is the possible stasis of bile indicated by a peculiar, pale, anxious expression, with nausea and vomiting and due to retention of bile and fermenting secretions in the stomach. These conditions are immediately relieved by gastric lavage with warm water.

"*Choledochotomy*—In these cases the drains are removed about the seventh day. If there is a tendency to obstruction with vomiting, or drainage is not acting well, sometimes calomel in one-fourth grain doses is given. If there is much jaundice, saline solution per rectum is given during the first twenty-four hours following the Murphy method, to rid the system of the toxic products.

"In other details the treatment follows the general plan of abdominal cases.

STOMACH AND INTESTINAL CASES.

"1. *Gastroenterostomies*—In these cases, as before stated, the stomach is washed out thoroughly, emptied, and one-sixth grain of morphine given before operation. Afterward they are placed in bed in an exaggerated Fowler's position and given absolutely nothing by mouth during the first twenty-four hours.

"Second day, one and one-half ounces of hot water every couple of hours.

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"Third day, hot water alternating with beer.

"Fourth day, buttermilk, beer and tea.

"Fifth day, to the above light gruels are added.

"Seventh day, crackers, soft eggs, potato.

"The same procedure is instituted in cases of gastric resection, except that they follow about one day behind the gastroenterostomies in regard to diet.

"The bowels are not moved as a rule in these cases until the tenth day and then by means of cascara sagrada.

"In cases showing obstructive signs a high rectal enema of soap and water is given, which, if not effective, is followed by one of magnesia sulphate and glycerine.

"These patients are usually out of bed on the twelfth day and leave the hospital within two weeks.

"Frequently saline enemas are given these patients during the first thirty-six hours; the salt solution being allowed to flow into the rectum under very low pressure. It is especially indicated in those cases where shock may be noticed. In cases of vomiting following operation, careful gastric lavage with warm saline is found productive of good results; it may have to be resorted to several times to be effective.

"*Prostatectomies*—These cases are given one-sixth grain of morphia on being put to bed after the operation and given one quart saline solution per rectum every six hours. Whenever there is much pain or tenesmus or the drains do not appear to be working well, the patient obtains much relief from hot irrigation of the bladder through the smaller rubber tube of the drain. (See drain 5d.)

"The drain is removed on the fourth day and the patient encouraged to get up. They are dressed in overalls with abundant padding into which the wound may drain. After the patient is up sitz baths are frequently given; four being taken on the first day he is up and two on each succeeding day.

"The patient receives much relief from these baths.

"Spartein sulphate in one to two-grain doses every four hours, is given in cases of suppression of urine.

"Mucous fistula resulting from operation is removed by burning with electro-cautery without anesthetic.

"In the suprapubic operation, the dressed tube (see drainage 5a, special cases) is removed about the seventh or eighth day. In these cases irrigation through the penis may be necessary. The general plan of diet for abdominal cases is carried out with these save that no restriction is made to the taking of fluids.

"Glands of the Neck.—These cases are usually drained by means of the spiral drains (see drain 1) which are removed on the fourth day, the

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rubber portion being taken out on the sixth day. They usually leave the hospital about the eighth day. In removal of the submaxillary glands there is frequently some pain and difficulty with the saliva during the first three days, which passes away, but which, when excessive, necessitates the use of atropine.

"*Breast Cases*—Are drained by means of the spiral drain (see drain 1), the gauze of which is removed on the fourth day and the rubber portion about the sixth day. Usually two or more drains are necessary, one in the axilla and a second at a dependent portion of breast. In dressing, a slight pad is used between the side of the chest and the arm, and then the latter is bound to the chest leaving the forearm free. Use of the forearm is early encouraged, the patient being made to feed herself the day following the operation. Passive motion of the arm is practiced early and by the tenth day the patient is able to comb her hair.

"*Goiter*—In reference to goiter operations, as previously stated, before the operation they are given one-sixth grain morphia and one one-hundred-and-twentieth grain of atropine. Frequently before operation, certain cases are treated for several weeks by X-ray, which tends to lessen the symptoms, probably by formation of connective tissue thickening, and hence lessened absorption; the capsular thickening produced by it at any rate renders operative treatment easier. Patients are encouraged to sit up on the second day after the operation. Exophthalmic cases do not sit up until the third day. Salines are given by the bowels during the first twenty-four hours; restlessness and palpitation relieved by ice bag and salines; other treatment is entirely symptomatic. The area of operation is drained by a split rubber tube, which is removed on the fourth day.

"The dressings in the hospital are put up in packets wrapped about by sterile towels; they include two towels, two pieces of newspaper, two strips of gauze, raw and absorbent cotton. The forceps, scissors, etc., are brought to the bedside in an antiseptic solution. The dressings are removed and replaced by means of forceps, the soiled ones being placed and carried away in the pieces of newspaper. In the dressings the hands do not come in contact with the wound.

"In general, in vaginal and perineal cases the silkworm gut sutures are removed on the twelfth or fourteenth day, and vaginal douches of bichloride or creoline used. The diet being hot water during the first twenty-four hours, gradually increased during three days to semi-liquid and within a week to full diet.

"In all cases in which there is protracted vomiting, rectal feeding is resorted to, this consisting of milk or gluten two ounces, hot water one ounce, repeated every six hours; two quarts of saline are also given every twenty-four hours. In abdominal cases in which there is much pain from gas, small rectal enemas of warm water are given."

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An interesting and very important adjunct to the staff of the Mayos is the pathological laboratory and its working staff. There are two pathologists, Dr. Louis Wilson, director of laboratories, and Dr. W. C. MacCarthy, surgical pathologist. One of the pathologists (Dr. MacCarty acting while I was at Rochester) is within call of the operator at all times. When suspicious growths are found or lesions met with not quite plain to the operator, bits of tissue are removed and immediately sectioned and stained and examined by the laboratory man. A quick method is used and the report is given to the operator within a minute or two after the tissue is removed. This is of immense assistance to the surgeon and enables him to decide quickly and without hesitation as to the best procedure to be employed. The sections are made with the freezing microtome, using carbon gas as the freezing agent. The sections are put in salt water and then are stained for a few seconds with Unna's polychrome methylene blue. They are washed off and mounted in Bruns' glucose, which is a solution of glucose in spirits of camphor. Every specimen removed at every operation is also sectioned and stained for permanent mounting in the usual way. This is then fully described and records kept for the pathological laboratory. Possibly, there is no place in the world where more complete and better work along this line is done than here at Rochester.

Before giving a reproduction of the clinical talks of the Mayos, I wish to speak of an institution at Rochester which is of special interest to the visiting surgeons. I refer to the "Surgeons' Club" of Rochester. This club is composed of all the visiting medical men of Rochester. It meets in a large, well-furnished room on the second floor of the Mayo offices, down town. It has a small collection of books, medical journals, etc., as a nucleus for a library. On its four walls are seen photographs of some of the world's leading surgeons. This club meets every afternoon at three o'clock and the time is spent in listening to the reports of regularly appointed reporters (appointed daily by the president), one for Dr. W. J. Mayo's operating room, and the other for Dr. Chas. Mayo's room. This club was organized June 7, 1906, at the suggestion of Dr. J. L. Wiggins, of East St. Louis, Ill. The purposes of the club, as stated, are discussions of operations witnessed, and social intercourse among the visiting surgeons. Occasionally, some one of the Mayo staff gives an interesting talk before the club. New officers are elected weekly, serving until their successors are appointed. There is a permanent secretary elected every year by the board of directors. There are two classes of membership, life and temporary. Life members are entitled to perpetual membership and receive all the reprints of the Mayos. The money taken in for dues is used to defray the current expenses of maintaining the club's quarters, etc. The club was originally called the "International Surgeons' Club,"

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but at the request of the Mayos, the name was changed to the present "Surgeons' Club," of Rochester. Honorary membership is conferred on distinguished members of the profession who may visit Rochester. Lately, the name of our own Dr. Bransford Lewis, of St. Louis, was added to the list of honorary members.

One rubs elbows at Rochester with surgeons from all parts of the world. The register of the Surgeons' Club shows the name of the Surgeon-General of the Japanese army next to that of a practitioner from the States. Glancing further down the page we read the name of a famous German professor, and looking still further, we see the names of most of our own well-known practitioners of surgery. It is for all the world a meeting place of earnest workers, each striving to profit by watching and hearing these two zealous surgeons. The most obscure and the most distinguished members of the profession meet here on equal grounds and each can profit immeasurably in his own way. You can go to all the surgical centers of the world and you can not get a better post-graduate course of surgery than here at Rochester. The proof of this is seen in the constant attendance of visiting surgeons, averaging from thirty to forty men every day. I have reproduced in this article a photograph, taken while I was in Rochester, showing the medical men present at that time, grouped about the two distinguished hosts, Drs. W. J. and C. H. Mayo.

Owing to the writer's ability to take shorthand notes, the President of the Club appointed him each day as reporter for one or the other of the operating rooms, and a verbatim report of the clinical talks was read before this club. During my stay at Rochester, the following officers were serving: President,, Dr. J. D. Matthews, of Detroit, Mich.; vice-president, Dr. W. S. Gore, of Eureka, Kan.; recorder, Dr. Ira B. Oldham, of Muskogee, Oklahoma.

Before giving one of the lectures which I took down verbatim, I wish to make one observation that struck me as one of the most remarkable things I have ever witnessed in a place of this kind, *i. e.*, in a surgical hospital and in a small town, where everybody hears and sees practically everything that is said and done, one is struck by the hopefulness and cheerfulness of all the patients who come here for operation. While many major operations are performed here, yet the subjects of these operations are confident and determined to get well. This appeals to me as being of immense assistance to the Mayos in continuing the successful work that has been theirs for so long a time. It detracts not an iota from their glory; on the contrary, it adds to it, for it is by their past performances that the present hopefulness has been engendered.

There are three points in the operative work which Dr. W. J. Mayo constantly emphasizes as representative of what the surgeons of Rochester

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try to bear in mind, and what every one who does surgical work should remember. They are: (1) obtain the lowest possible mortality in your work; (2) there must be adequate reason for the performance of a surgical operation, and (3) keep the patient in bed the shortest possible time after the operation. With these three points joined together, with a splendid system of diagnosis-making, with an operating-room personnel second to none in the surgical world, with a competent and experienced laboratory staff, and with a splendid anatomical, physiological and technical knowledge, combined with manual dexterity, what more could one ask of a surgeon? The three cardinal points, *Tria juncta in uno*, constitute the keynote for the splendid staff arrangement around which so much success has been realized.

One asks, naturally, what operations can you see at Rochester? The answer is, if you stay long enough you can see practically every operation in surgery. I saw possibly twenty-five operations every day while I was there. You see a great many appendectomies, practically all "interval" operations. You see Dr. W. J. Mayo perform many operations upon the stomach and intestines, and you will see Dr. C. H. Mayo perform a great many goiter operations. These goiter operations are performed nearly every day; all kinds—exophthalmic goiter, simple goiter, malignant disease of the thyroid, etc. And then you see a number of prostatectomies, by the perineal route. You will also see varicose-vein operations, tonsils and adenoids removed, gall-stone cases, bladder operations, gynecological operations of all kinds, bone resections, etc.

CLINIC OF DR. W. J. MAYO.

Dr. Mayo said: Wednesday, July 8, 1908.

"*Appendectomy and Gall-Bladder*—The first case presented is appendectomy and exploration of the gall-bladder. Patient of thirty-nine years; has one child, eleven years old. For three years has had attacks of pain, sometimes severe, usually four or five times a year. The pain was most severe after January, 1908; pain mostly in the lower bowel, with vomiting. There have been several attacks with pain in the region of the appendix. For the last six months eructation of gas, with sour eructations. The location of the pain and the length of the spell, some of the attacks lasting a week, looks like appendix trouble. There was a history of some passage of blood, which I think due to hemorrhoids. We will make a little larger incision in this case, but I think the chances are almost certain that the trouble is in the appendix, and there is also a possibility of trouble in the gall-bladder. I will make an incision large enough to introduce my hand.

"You know, there are two diagnoses: the pathological and the surgical. If I make a good surgical diagnosis and fail in the pathological

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diagnosis, I do not feel that there is a bad error, because we do not see these patients in their attacks. We have practically only the history to go by, and with an unintelligent patient it is very difficult to get a good history. We would not think that a gall-stone attack would last one the list ... we will go back to the early history and look for appendicitis

One rub... complication. I am now looking here in the region of the world. The reg...hing the appendix. I find here a simple cyst or re-geon-General of the Ja... necessary to do anything with it. I will now States. Glancing further ... is obliterated. There are a number of small German professor, and looking... we will push it in. I do not see how a our own well-known practitioner... been produced by such an appendix. I meeting place of earnest workers, eac... dronephrosis in this case.
hearing these two zealous surgeons. The... was repeated as above). This tinguished members of the profession meet ... with a considerable amount each can profit immeasurably in his own way... ndix, there is not enough surgical centers of the world and you can not g... history. I am going to course of surgery than here at Rochester. The ... ision.) There in the constant attendance of visiting surgeons, aver... rong, by ex-forty men every day. I have reproduced in this ... ficient cause taken while I was in Rochester, showing the m... gall-bladder that time, grouped about the two distinguished ... e spasm of C. H. Mayo. ... t you *may*

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"Many times the diagnosis is made on the history, and sometimes there is a matter of some difficulty in getting at the truth in such cases. There is also a possibility of several troubles with these patients. I remember one man that I knew as a boy, and I treated him a long time for stomach trouble. Then he had an attack of appendicitis and I removed a gangrenous appendix. Then he continued to suffer, and I thought he was a neurasthenic. After a while, I removed gall-stones, two years after the appendix operation. He got another hard spell before he left the hospital. He had spells of pain on and off for three more years, making five years in all. We at that time were beginning our work with the X-rays. I had him X-rayed and found a stone in the kidney. If you cut down with a preoperative diagnosis and you do not find what you have diagnosticated, look around for something else to explain it. There is nothing wrong in this case with the kidney. The appendix is not normal, but it is not sufficiently changed to account for the symptoms. There is here, however, a big, thin-walled gall-bladder; there is a simple retention cyst of the ovary which does not amount to anything. We can not tell before we open the gall-bladder whether it is the cause of the condition. You may go through all of this and you may still be dissatisfied. In cholecystitis there is a dark-colored bile filled with mucus, and the gall-bladder shows it.

"These are the types of cases that you are most apt to slip down on. One always feels as if he did not want to make a diagnosis of cholecystitis with stone, and then cut down and find such a condition and admit that the diagnosis was correctly made. I try to work on these cases with an open mind, and let it land where it will. There is probably no organism in this bile. This question of the long-continued infection of bile is a peculiar one. For instance, typhoid patients may carry the typhoid bacilli in the gall-bladder for years. There are peculiar typhoid carriers which make the ultimate prophylaxis against typhoid fever one of great difficulty. The gall-bladder becomes infected with only intermittent disturbances, but not enough to make the patient seek medical attention. These patients discharge many typhoid bacilli with their bile and then in their stools. There is a recent case in Germany, on a certain country dairy farm, where there were forty cases of typhoid fever, and it was found that people supplied with milk from this farm had contracted the disease in this manner. On this farm there were forty cases of typhoid. Nothing else was found, but it was also determined that the first case of typhoid on the farm was a certain woman who worked there. They examined her stools and found typhoid bacilli. She had infected the milk, and many cases occurred from this infection.

"We get chronic infections of the gall-bladder occasionally. You must remember that it is not necessary to drain a lot of these gall-bladders.

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(Dr. Mayo here closed the gall-bladder in the usual way, with cigarette drain, etc.) In some of these old cases that have existed for years, for instance, an old man whom I remember had chills at irregular intervals, with occasional jaundice; we cut down and found a gall-bladder with a number of stones, very crumbly. He had one hemorrhage before the operation, and after the operation he had another hemorrhage. There is sometimes infection of the liver secondary to infection of the gall-bladder. It is difficult to empty out these gall-bladders. There are a larger number of cases of cholecystitis which would probably not form stones. There is a frequent condition of cholecystitis which exists for years without gall-stone formation, a condition difficult to diagnose. I had my attention called to this type eight or nine years ago, having four cases of this kind. One man I cut open and simply explored; one man I explored the gall-bladder, and here I got the idea that one of these cases needed such an operation. I found a condition at that time something like I find in this case today, with soft, muddy bile, sometimes with yellow streaks in the inside of the gall-bladder. The cases that I simply explored were not relieved, but those that I drained did get well. I kept track of them for several years, and found this to be true. (Dr. Mayo then showed with his hands about the normal size of the gall-bladder, and then demonstrated the size of the one just operated.) You will find inside of these gall-bladders thick, black material, with bile-stained mucus, with muddy mucus at the bottom of the gall-bladder. In other cases you will find putty-like substances in the bottom of the gall-bladder. This latter kind usually shows jaundice. These cases occur in 3% to 4% of the cases of gall-stone disease which we operate upon here. I have turned a lot of them down, and I have opened up a few on this theory: I have always found them to be big gall-bladders, with thin walls. Sometimes, in gall-bladder work you will be gratified to find gall-stones which you could not feel before operation. I have said, in some cases before operation, that there was not any stone there, but on opening up the abdomen I found a large one.

"*Appendectomy and Gall-Bladder Case*—The next case operated was appendectomy and gall-bladder case: Patient forty-two years, had four children; thirteen years ago had her first attack of colic, while pregnant, with vomiting. Every three or four weeks after that she had attacks, and was all right between the attacks. Then there was an interval of no attacks for ten years. The last attack was three weeks ago. There is also history of attack of pain in the region of the appendix; sometimes pains of the appendix merge into the gall-bladder pains.

"Gall-bladder incision was made. I here draw the appendix up through the gall-bladder incision. This is a nasty appendix, one in acute inflammation, just over an attack. The appendix looks congested. (It was tied

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off.) Here I find adequate cause for the symptoms. We will now go over the gall-bladder, too. There is a certain percentage of atypical cases. If you do not operate upon any except where the diagnosis is clear, we would not relieve the number of people that we do. Often people ask you point-blank, 'Doctor, what is the trouble?' You say, I do not know whether the trouble is in the gall-bladder or in the appendix. I do not believe that with the very best history that it is possible for any one to be absolutely sure on this diagnosis. If we could see the patients in the attacks, it would not be such a difficult matter. In this case, this bladder is normal. It is blue, as contrasted with the other case. The green bile shows through the membrane, and there are no stones. Next, notice how readily this gall-bladder empties itself. This is quite satisfactory. The patient wants relief; whether he gets it by taking out a gall-stone, by having a duodenal ulcer fixed, or by having the appendix out, makes no difference. In the old times, when the pathological diagnosis was supposed to be the whole thing, then that diagnosis was held very precious, and when you cut down, the operation had to be made based upon that diagnosis. This led to a number of disasters, more than anything else in surgery. There was a time in gastric surgery when they knew next to nothing about gastric ulcer. They always tried to find the cause for the gastric ulcer; failing, they got surgery into disrepute. The operations were made upon inadequate findings. Here is a case where you may feel content. We find a pathological condition of the appendix to explain the symptoms.

"Surgeons should always try to find adequate explanation for symptoms.

"*Carcinoma of the Stomach*—Next case is a man of thirty-three years, two and one-half years having attacks of pain, with gas formation, which he feels in the small bowel. Pain starts in the appendix area. No vomiting, no jaundice, no gas eructations. Pain lasts from one hour to thirty-six hours, and hardly a day goes by without an attack. Constipation marked, and progressive loss of weight, now fifty pounds below his weight. Total acidity, 24%, no free HCl, combined HCl 4%, no lactic acid, no blood.

"This man looks bad. He looks like he has a carcinoma. I open the abdomen and find that is what is the matter. How can we explain this? The man has been sick for two years. This man has a large carcinoma. It sets on the lesser curvature, involving the posterior wall. The growth in this case is exactly where it would not give symptoms of obstructions. So far as the early diagnosis of carcinoma is concerned, sometimes it does good to operate. Here is a man where the disease has run its course without any symptoms. This operation was based rather upon a suspicion of carcinoma of the stomach than anything else. There are no obstruc-

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tive symptoms in this case. There is no involvement of the pyloric end. The early diagnosis of cancer of the stomach, when it affects the pyloric end, depends altogether upon obstructive phenomena. If the carcinoma is at the other end (cardiac) you will not make the diagnosis, and you do not do an operation to remove it if you did. Even now this man has no lactic acid, his combined HCl is 24%. When you get right down to it, the question is almost a mechanical one. There are certain things that you get in the early surgical diagnosis; first is tumor. I have a woman here in town where she and her doctor have been feeling a tumor of the stomach for the last two and a half months. He sends her down now for operation. I think she needs an undertaker, no operation. That takes us back to the original point: First, is the tumor. In response to a question on the use of the electric light in the diagnosis of gastric carcinoma, Dr. Mayo said: It has not been proven that the electric light aids the diagnosis. He said the Robson method of inflation of the stomach with gas, and then the use of the electric light, is practical. Obstruction at the pyloric end of the stomach calls for an operation. If you can get cases with mechanical symptoms, you will get many suitable for operation. If you wait on a case, with vomiting, with tumor, you will get operative cases. (This case was sewed up, as the growth was considered inoperable.)

"Perineorrhaphy and External Alexander's—Next case was retroversio uteri, lacerated perineum, and performance of plastic operation and external Alexander operation. Patient is thirty-six years of age, has had three children. She has had tear of the perineum since the birth of her first child. Menses are free, but gradually lessening. There is dysmenorrhea now. For several years she has had sour eructations. Pain referred to the back. For the last two or three years she has had attacks of vomiting, with relief of the distress following vomiting.

"We will now see whether this uterus will come up, bimanual examination showing that it does. In cases where the uterus will come up easily, I like the external Alexander operation. We have found in a series of examinations of all patients that one woman in every four has retroversion. (Curettement was then performed.) Continuing, the speaker said: A number of examinations of girls, married women who were raising families, as well as aged women, showed the above percentage of retroversion. It can not be possible that all of these people that have retroversion have trouble and do not know it. We looked up to see whether there was a higher percentage of neurasthenics to retroversions, and we could not find it. The time has gone by when we find conditions existing like retroversio uteri and movable kidneys to explain everything with. The burden of proof is on you. (Here Dr. Mayo inserted a drain into the uterus, using, prior to that, pure carbolic acid in the canal.)

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"About the only cases where we do the Alexander operation is not retroversion alone, but where there are other troubles which the patient suffers from. We will now do a perineal operation.

"First, make a straight incision through the center of the perineum. The difference between a lacerated and a non-lacerated perineum is the condition of the muscle. They are both covered by mucosa and skin. Now the thing we want is the muscle, and what we make the incision for is to get at the parts. There are certain muscles here that get torn, and we make the incisions to get at these muscles. These muscles are the uro-rectalis, transverse perineal, superficial and deep. (He showed the muscles on each side.) We want to make this like a normal muscle. (He sutured the pubo-rectalis muscle with chromic catgut.) This is just as much an anatomical operation as anything else. Now, the minute you let go of the suture, it drops the rectum back. Then insert another suture further back, bringing the muscles together. Then go back, picking up the rectum, with the same suture on one side, then on the other side, which will give the proper direction of the perineum. In front is strong fascia. This is the uro-genital fascia. (The operator pushed the mucous membrane back, sutured up the uro-genital fascia. He pushed the mucosa in. He makes this a muscle restoration). It is as much a muscle restoration as operation for strabismus or transplantation of tendons. (He used a number of interrupted chromic catgut for sewing up the uro-genital fascia.) These sutures are not put through the mucosa, or skin, which is simply pulled together by the buried stitches. I put in a few external skin sutures where there was no union from puckering. (He then did an external Alexander operation on the same patient. He emphasized again that many of the symptoms detailed are not, necessarily, due to retroversion, but are due to other things.) When you find, when telling your patient to strain, that the uterus will slip down, then that is an indication for the external Alexander operation. For retroversion alone, however, we do not do this operation. Many say do not do the external Alexander operation, because 'it is like a hair-cut, it will come back again.' This is not true, and is said by men who do not know how to do the operation, and who do not know the anatomy and the embryology of the parts. The *round ligaments are part of the external muscular fibers of the uterus.* When the uterus changes, the round ligaments change. When the uterus undergoes involution the round ligaments involute. When the uterus enlarges, the round ligaments enlarge. If you do an Alexander operation, you must get the uterus up. The strength of the ligament does not mean the success of this operation. If the fundus uteri goes forward, that is all that is necessary to insure the success of the operation. If you put the uterus in such a condition that the intestines drop on the front wall, you will never get over the retroversion. But if you can control the axis of

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the uterus in such a way as to allow the intestines to drop back of the uterus, then you will achieve success. This operation is really difficult until you get used to it. If you do not do it right and shorten up the cord, the operation is a failure. The way to do it is the old, original Alexander operation. The round ligament goes out of the internal ring, down through the canal, and is attached to the spine of the pubes. The internal end is movable, and the external end of the round ligament is fixed. If you pull out the cord, it makes the operation easy. Incision is made two and one-half inches over the canal, on the right side first, cutting down to the deep layer of the superficial fascia, which is cut through. Then find the external ring by finding the cross fibers, and you will find the round ligament. Pull the nerve off from it. The cord is very fragile and you must be careful not to break it. Pull it up gradually. If you would do an internal operation, you would not do any good, because if you pull a strong part upon the uterus, and throw the strain back on the weaker part, the operation necessarily would not do any good. (The operator then opened up on the left side, in the same way. Chromic gut was then used to sew in the cord to the external ring on each side. He used three chromic gut sutures in this way, as continuous sutures.) I sew this up thoroughly, so that there will be no possibility of a hernia. I do not know any operation more satisfactory than this one. Sometimes we pull these round ligaments across. (The incision was then closed in the usual way.)

"*Appendectomy*—The next case was an appendix case, with curettement. Woman of forty-four years, had six children; two years ago, pain in the region of the appendix, with vomiting. Six or more attacks since then. The last attack was one week ago. She had to go to bed, with vomiting. I have just curetted this case for excessive menstruation. (The incision was made in the usual way, appendix exposed, showing some three fecal stones. Stump was dropped back.) I found no fibroid in the uterus, but a great number of so-called 'fungoid granulations,' which are the cause of the increased menstruation. In the appendix I find three fecal stones.

"One thing we have not quite gotten in our heads as well as we might is this: When I began to do surgery, it was the time of the surgery of strangulated hernia. Wood brought out an operation for pushing in the hernia with a wooden peg. Hutchinson, an irregular practitioner, used an injection of white oak. These were the two pioneers on hernial work. Thus we began to operate for the cure of hernia in these cases where it appears dangerous because of strangulation. Then we progressed until we began to operate upon all hernias for the purpose of giving them relief from the hernia, regardless of the question of strangulation, and that is the position now. With appendicitis it is the same thing. We began to operate for people who had perforation, gangrene, abscess. We have con-

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tinued to talk to ourselves that this is what we are doing at the present time. It is not true. We are operating on many cases that are not dangerous to life, cases where they have fecal stones, strictures, pain and annoyance comparable to hernia. The difference between the American and the German surgeons is that the Continental surgeons think that the only hernia that needs relief is the strangulated case, whether of hernia or of appendicitis. The American's views are comparable to the operations for the radical cure of hernia. We are doing it with the fiction that the patient might die if not operated on, but really we can not say that this is true. A large majority of operations for appendicitis are done upon patients who would not have died, but who would have continued to have stomach trouble and pains, and interference with the general health. Three cases out of every four that are operated upon would not endanger life, but the mortality is only about one in nine hundred in our work.

"*Appendectomy*—For over a year pains in the appendix area, three weeks ago had attack which kept her in bed for two weeks. No vomiting, no nausea, no fever. We have changed our ideas with regard to malignant disease of the appendix. There are two forms, one form in which there are spheroidal cells, occurring in the young person. It has no tendency to form metastases, nor involve the lymphatics. Cases of this kind have been discovered accidentally on attempting to remove a chronically-inflamed appendix. These patients get well and stay well. This first form are subbasal formations, resembling the ordinary case, except there is a rodent-ulcer type. The second form is the columnar-cell type, which is the same as we find in carcinoma of the stomach and intestines, large and small, with the same tendency to involve the lymphatics, particularly the cæcum, occurring in this country in one-third of 1% of the cases; in the old country in 1%, the difference being accounted for there by the fact that they do not operate so readily as we do on appendicitis.

"Tuberculosis is another of the somewhat rare manifestations of disease of the appendix. It occurs probably most commonly as part of a general tuberculosis of the intestinal tract, occurring under such circumstances as these: We open up the abdomen and we find a multiple type; we find here and there scattered areas of contracted parts covered with tubercles, and with a thick lumen, where we find on opening a thick ulcer following the line of the lymphatics. The lymphatics are involved. They come from swallowed sputum, and are accompanied by diarrhea.

"Another kind of tuberculosis that is common to the rest of the intestine is a single spot of tuberculosis, forming strictures in the small or large intestine. The cæcum is sometimes involved. We have had such a case in the cæcum, leaving a scar in the intestines. These are rare cases.

"Another type that we do not know a great deal about is a certain percentage of cases where there is general peritoneal tuberculosis; that is,

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associated with disease of the appendix, or caused by it. The difficulty is to know whether it is secondary or primary.

"The most interesting group of tuberculous cases is the so-called hypertrophic tuberculosis, where we find tuberculosis of the appendix extending to the cæcum, and forming a tumor, which is as well marked and typical as carcinoma, and this is usually considered to be carcinoma, due to an enormous thickening of the submucous tissue. It forms a well-marked tumor, which is liable to be associated with symptoms of obstruction. This type was at one time supposed to be confined to the cæcum alone, but it has been found in other parts of the intestinal tract. The greatest number of such cases involve the cæcum, however. These cases are accompanied by diarrhea and other symptoms, and are very frequently operated upon for carcinoma. In this connection the appendix is usually involved with the cæcum, and in the early cases the appendix is primarily involved, cæcum secondarily.

"Another interesting phase of this question is that if you are able to stain the tubercle bacilli, found in these cases, you find them short and stubby, like those seen in bovine tuberculosis. They are almost typical of bovine tuberculosis. It is a question whether most of the cases of hypertrophic tuberculosis of the intestine are due to bovine rather than to the human form of the tubercle bacillus. The tubercle bacilli found in such cases can not be distinguished from the tubercle bacilli found in tissue from bovine tuberculosis. Whether it is an infection of bovine tuberculosis or not I do not know, but there is no question but that the organisms resemble the bovine variety of the tubercle bacillus.

"To return to the type of tuberculosis involving the peritoneum, there is no doubt but that peritoneal tuberculosis is always secondary. We have no more business to speak of tuberculous peritonitis than we would have to call a case 'suppurative' peritonitis. It is a local infection. The old idea of looking upon tuberculosis as a disease of itself will not stand investigation. We know that the tubercle bacilli will pass through the lymphoid part of the intestine without leaving any trace upon the solitary follicles, Peyer's patches, etc. In children we know that most cases of tuberculosis arise from the intestine, passing through the lymph spaces. In the adult we operate upon women with the ascitic form of tuberculosis more often than upon men, about four to one—nearly five to one. Most of these cases are found to be tubal in origin. We have occasionally found this condition in the appendix, and now in the female we cut down to remove the tube. In the male in operating for tuberculosis we cut down over the appendix. Peritoneal tuberculosis is purely a secondary process and it is a necessary process on the part of nature, because it is a conservative process. The forms of tuberculosis that occur in the appendix are more generally associated with a colon infection.

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Coming to forms that come from the intestinal tract, we have the so-called fibro-plastic type. We have operated upon several of these cases early, before infection had died out. The trouble is that with the fibro-plastic type the operation does not do any good. The pure tubercle does not create a large amount of material.

"*Appendectomy*—The next case, an appendectomy, patient of eight years, one year ago first attack lasted and kept him in bed fifteen days. Vomiting; since then twinges of pain, but no severe attacks since first. I like this incision because it gives the least possibility of secondary trouble. I have never seen a muscle-splitting incision which has been followed by a hernia. It is a strange thing how the muscle-splitting operation incision happened to be called the 'McBurney' incision. As a matter of fact, McArthur, of Chicago, read a paper before the Chicago Medical Society six months before McBurney published his paper. This was six months before McBurney's paper appeared in the *Annals of Surgery*, but there was some delay in the publication of McArthur's paper, which resulted in the incision being called after McBurney. (The operator here exposed what appeared to be a little calcareous gland attached to the appendix.* He then showed that the tip of the appendix was missing.) The nice thing about this incision is the ease with which you are able to get these patients up safely in a few days after the operation. The first idea in surgery of the abdomen was the question of mortality. There was a time when Lawson Tait's publication of his mortality of 25% caused fellows to wag their heads and say he was a liar. In the early days the question of mortality overshadowed everything else. We had in those days papers on 'Why I Am Such a Great Stuff, With One Hundred Laparotomies, With One Hundred and One Recoveries,' etc.! At that time everyone was crazy about operating upon ovaries. The mortality was small for those days, but remember that all of the patients were alive when they were operated on. This brought up the second question of operative surgery, that not only must the patient live through the operation, but he must be relieved by the operation from his suffering. The patients had to be sufficiently improved to make the operation justifiable. This sounded the death knell of 'ventro-suspension' and 'internal Alexander's,' etc., etc.

"We are right now just getting through the second stage of surgery, *i. e.*, the patient must receive corresponding benefit so that there is a permanent cure of sufficient relief.

"Right now we are to the third consideration: First we had the position that the patient must recover from the operation; then he must have received a sufficient amount of relief to pay for the expense and risk of the operation, and thirdly, he must be laid up as short a time as possible after the operation. We no longer feel that we have done our duty simply

* A microscopic examination of this proved it to be the tip of the appendix.

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by making the operation; we must look out that he gets up quickly after the operation. The idea of a surgeon liking this or that incision because it is 'convenient' to him is not right. We have no right to make any kind of an incision that will lay a patient up in bed for a long time. We must give the patient a good and permanent cure or sufficient relief without laying him up in bed for even an extra hour or a day longer than is absolutely necessary. We are now turning our attention in this hospital to seeing how quickly we can get the patients out of bed without interfering with the mortality. We do not keep our patients in bed three weeks after an appendectomy as they used to do. We figure that we have a thousand cases of appendicitis a year operated on here and we keep them in bed about a week. This is a saving from the three weeks of former days of 2,000 weeks a year, or about forty years. It is the same thing with hernia. Our incisions are considered convenient and proper only when they are designed to rapidly let the patients recover and get up and out. We have a record of about 400 hernia operations a year, which is a saving in keeping them in bed of 1,000 weeks, or twenty years, as compared to keeping them in bed as long as they formerly did. This saving of time would make Methusalah look very young.

"A good surgeon then should have *the lowest possible mortality, permanent or adequate cure and lay his patients up the shortest possible time.* If you lay the patient up one week, it is not possible to restore his blood pressure for another week, and the longer after that you lay him up the longer it takes to restore it. If you lay him up one month, it will take him all summer to get over it. It is, therefore, an absolute detriment to the patient to lay him up long.

"*Pelvic Tumor*—Next case, pelvic tumor, thirty-one years old, five years has been having gradual increase in length of the menstrual period. It is now fourteen days in length. There is slight frequency of micturition. Hemoglohin reduced to 40%, and the red under 4,000,000. It is interesting to know that there are no tumors of voluntary muscle reported. Tumors are always in involuntary muscles. The rhabdomyoma or tumor of striped muscle fiber that have been found are always immature muscle. These are only found in Wilms' tumor of the kidney ordinarily called sarcoma. There are, therefore, no tumors of adult voluntary muscle. We find tumors of involuntary muscle in the stomach, esophagus, uterus and intestinal tract. (Here a median incision was made.) There are a great many theories in regard to fibroids. Usually, you find that where there are plenty of theories we are scarce on facts. We really do not know much about the question of fibroids. At this patient's age, thirty-one years, if we can do a myomectomy, we shall do it. If she were two or three years younger, we would be still more anxious to do a myomectomy and save the uterus.

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"The question of pregnancy in fibroids is an interesting one. I have never seen a case in which a fibroid existed where there was a good and sufficient reason for inducing miscarriage. I have taken the most enormous tumors out of pregnant uteri without producing a miscarriage. I have taken out of pregnant women at six and a half months' gestation tumors of the uterus, where the tumor was producing great distress. It did not seem possible to do it without terminating the pregnancy, but I did it. Here is the tumor (fibroid) and here is its attachment just under the horn. I will take out the tumor from the front. I have seen a number of specimens of uterus and fibroid with fetus hanging together, and I would not want to say that it could have always been prevented, but I will say that in many cases it is possible to remove the tumor and save the fetus. Eight and a half months is the favorable time for delivering the tumor by operation if you can wait that long. (Here he split the uterus and showed a number of small nodular fibroids in the uterine canal which compelled him to remove the uterus, which he did by amputating it at the cervix.) I could have saved the uterus were it not for the mass of nodules in the uterine canal. I have removed twenty fibroids from twenty cases in pregnant women without one miscarriage. If you have a case where you feel you must do something for the patient, then, at the eight and a half month time of pregnancy, do a Porro-Cæsarian section. I remember one case where I did that and the child is now a student of a high school in this State. Another thing that you can do where there is pregnancy and there are symptoms that can not be ignored, where miscarriage is apparently unpreventable, the tumor lying in front of the child, lift up the tumor from the pelvis, put the cervix down and fasten the uterus down and in two cases in which I have done this, the patient was confined before the doctor could get to the house. The medical profession has thought too often that miscarriage is justifiable on account of fibroids. I want to say that most of the cases where they have proceeded on that ground, that the patient upon whom miscarriage was performed died from infection. A very large majority died from infection of the fibroid. The best thing is to leave the patient alone.

"Many women will raise a large family in spite of the existence of fibroids. I have never seen a case where it was necessary to produce miscarriage before the viability of the child on account of fibroids, and at the same time I have never seen a death from it, because I have never considered it necessary. If I should have such a case I prefer to wait until eight and a half months and then do a Porro-Cæsarian. The only cases where I have had trouble are those where attempts have been previously made to destroy the life of the child, where finally, as last resort, the case has been submitted to a Porro-Cæsarian or Cæsarian section. We should be very slow where there are fibroids to empty the uterus on that account.

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There is greater danger of fatal termination of the case from emptying the uterus than from allowing the pregnancy to proceed. In the case which is before you, the cervix was amputated, ovaries and tubes allowed to remain, two round ligaments sewed across.

"Do fibroids ever go away? I have never seen a case where a fibroid had entirely disappeared. A fibroid is composed of blood and the rest is tissue. If the blood supply is cut off, the tumor may get smaller, but it gets smaller only to the extent of this deprivation of blood supply. I think that it is a mistake to believe that they ever go entirely away of their own accord. Another way in which that mistake occurs is this: A woman comes to you and shows extra-uterine pregnancy. You will find a lop-sided tumor and you say that the patient is pregnant. You get worried and finally come to the conclusion that pregnancy is in the horn of the uterus and it passes down without any trouble. Sometimes, instead of thinking it is an extra-uterine pregnancy, you think it is a fibroid. The patient is watched. The patient goes through labor without any trouble and the physician thinks that she had a fibroid which disappeared with her labor. I have never seen a case where a fibroid disappeared, but I *have* seen cases answering to this description. These tumors sometimes do not begin to grow until the menopause. The disappearance of these tumors is uncertain and much that has been said about it has been exaggerated. I do not want to say that it has never happened, but I have never seen it happen, and I think it must be pretty rare.

"As to the relative merits of a myomectomy as compared to hysterectomy, some claim that hysterectomy should always be performed. It is a hard thing to make a woman lose her uterus on account of a single fibroid tumor. There is a possibility of 10% of recurrences after myomectomy or of trouble in the ovaries or tubes later on. I wish to state that all fibroids do not need operation. I have seen many fibroids that do not need operation. I think that all fibroids that are giving trouble or all fibroids that are larger than a lemon will give trouble—all these need operation. The cases that have simple little nodules in the uterus do not need operation. What about the 4% of malignancy? It is true, this 4%, cases that develop into malignant tumors of the type of carcinoma of the fundus which is relatively common, those cases are curable by operation, even when hysterectomy is done late. Cases that develop into carcinoma of the fundus are those where the fibroids are sub-mucus and they belong to the category that originally needed the operation. In women with little fibroids, with no history, I am inclined to wait. It is that kind of tumor that has been treated with electricity. It is just as well to use an electric shower as to use electricity in the uterus, as you are liable to produce pus tubes if you use the intra-uterine electric treatment. Ten or fifteen years ago we had a lot of pus-tube cases produced that way. When you open

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the cavity of the uterus you are liable to get infection of the abdominal wound. Everybody gets used to the germs in the part of the body in which they exist normally; for instance, the germs in the mouth will not set up an infection when the gums are injured by the dentist. Produce the same wound in other parts of the body and you will get a bad case of infection. The germs from the vaginal cavity will produce the worst kind of infection in the abdomen. Even after scrubbing the vagina, these germs will produce stitch abscesses, not in the peritoneum, which takes care of itself with infecting organisms, but in the external wound. We have one case in 600 here of infection of clean cases in the external wound; almost all of them are pan-hysterectomies. We have been hunting for years for an antiseptic for wounds, and think we have found it in iodine, which is a good antiseptic. As early as 1885 Thomas Bryant had spoken of using it and not getting infection, while his fellow workers did get infection—he did not know that his use of iodine was preventing infection. I avoid the fat in putting in sutures, because fat gives infection."

I have attempted in this article to give my readers somewhat of an idea as to what kind of a surgical system prevails here at Rochester and just what kind of work is produced as a result of following out this system. I have attempted to show that as a result of the system, the work proceeds with clock-like precision. I wish to emphasize above all things that the work *results most successfully for the patients.* This should be a desideratum, above all things, in medical or surgical treatment. I have given an epitome of the pre-operative and post-operative procedures. Finally, I have jotted down a verbatim account of the clinical talk given by Dr. W. J. Mayo as he worked. It must be remembered that as this talk was given, the operator was working placidly yet rapidly in the abdominal cavity, cutting, sewing, ligating and performing all the different manipulations of surgical technique in these parts. The reader, I hope, will thus obtain some kind of an impression of the operator's grasp of the particular situation when I assure you that the work was done marvelously well, and he should also obtain an exact impression of the operator's grasp of the general situation, of the literature of surgery, for instance, from the words spoken at the operating table. The Mayos know medical and surgical literature and they know it well. I understand that there is a weekly meeting of the staff of St. Mary's Hospital, which is in the nature of a "round-up" of literature; the assistants, during the week preceding each meeting, read over the world's medical literature and present it to their chiefs, who in turn discuss the same and place it in one of the many "pigeon-holes" of their cerebral apparatus. Reviewing the entire system and its working, try as I could—and I really *did* try—I could not figure out one single innovation or "stunt" that could be added to the machinery of surgery here that would facilitate the ease of performance or result in an improvement

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in the results. But how can you expect *me* to innovate anything or suggest anything that has not already been covered by the fertile brains and busy hands of these indefatigable workers? They have learned what they know by experience, and their ingenuity has at all times sufficed to overcome obstacles and make the path as easy as possible.

THE IMPORTANCE OF RECOGNIZING SYMPTOMS FOLLOWING THE RECEIPT OF INJURIES TO THE ABDOMINAL WALL.

By Sherman Leach, M. D.,
Professor of Surgery and Clinical Surgery in the Starling-Columbus Medical College, Columbus, O.

[Written for the Medical Brief.]

Since one or two cases have recently come under my observation wherein patients have received injuries to the anterior abdominal wall, followed by a train of symptoms that should receive very careful consideration at the hands of the attending physician, I am prompted to report them. Either as a result of carelessness or over-anxiety on the part of the physician to relieve pain, frequently by the use of a hypodermic, the symptoms are masked and valuable time lost until peritonitis has developed and nothing remains but to hope against hope. Such conditions, however, are of too infrequent occurrence to hold the general practitioner responsible for errors in diagnosis.

To illustrate: A case operated a few days since gave the following history. Man aged sixty-two, machinist by occupation, while engaged in his work, received a very heavy blow in the left lower quadrant of the abdomen, from a large iron wrench. This occurred at 11 a. m. The blow was followed by severe pain, vomiting and symptoms bordering on shock. This condition, however, obtained but a few moments, when the man was able to return to his work and continued until 2:30 p. m., when as a result of the continued nausea and sick stomach he walked to his home, a distance of a mile or more. The ordinary household remedies were employed and a physician was not called until 7 p. m. The doctor stated to me that he found the man vomiting and complaining of severe pain over the entire abdomen. Temperature 98.6° F., pulse 72. He ordered a high rectal enema and gave one-fourth grain of morphine, promising to return the next morning. At his morning visit he found the patient still suffering from pain. Vomiting had continued throughout the night; pulse 100 to 110; temperature 96° F. Consultation was asked for and the same had on the following afternoon at 3 o'clock.

At this time I found the patient's pulse 130, temperature 100° F., abdomen decidedly tympanitic, hard and indurated; vomiting not stercoraceous, and complaining of great pain. From the patient's previous history and the history of the injury, and the subsequent symptoms, I

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had no hesitancy in making a positive diagnosis of a ruptured bowel, and advised an immediate operation.

Patient removed to the hospital. The abdomen hurriedly opened in the median line and fully two quarts of liquid fæces were contained in the abdominal cavity. General peritonitis with a heavy exudate thrown out over the entire bowel was the condition present. On opening the abdomen a few loops of bowel were quickly eviscerated, and about three feet from the cæcum I found two portions of the ileum entirely torn across down to the mesenteric border. The patient's condition was such that any operative procedure with the object of saving life was out of the question. The two loops of the divided bowel were brought to the abdominal incision and quickly stitched, the abdominal cavity flushed out as rapidly as possible and the abdomen closed, patient dying two hours later.

Case 2—Man aged seventy-two, while returning home from work at 10 p. m., fell into an open sewer that was being constructed a depth of six or eight feet, the abdomen striking against a scaffolding erected in the bottom of the sewer. He was found in this condition an hour or two later and an ambulance called, and he was hurriedly sent to the hospital, arriving there at about 11 p. m.

The house physician reported to me the condition of the patient; stated that his pulse was normal, temperature normal, no fractures to be discovered and absolutely no evidence of any external injury or discoloration, yet he was suffering intense pain in the abdominal cavity. I ordered a dose of morphine to be given and his condition to be reported in one hour. At 12 o'clock I was again called, stating that the patient was violent, requiring two or three attendants to hold him in bed and still complaining of the intense pain. I visited the hospital at this time, found the patient as described, with pulse 84, temperature subnormal, bowels not tympanitic, no evidence of any tumefaction, but intense pain on palpation complained of over the entire abdomen. There was absolutely no evidence of contusion or any signs of injury to be discovered.

A diagnosis of rupture of some of the abdominal viscera was made and an exploration advised, to which the patient readily consented. The abdomen was opened in the median line and the first loop of bowel brought up proved to be the jejunum. At a distance of about twelve inches from where it passes under the mesentery the bowel was torn down to its mesenteric attachment. This was united by end-to-end sutures, and still further evisceration done. About twenty-four inches from the first wound of the intestine another opening the size of a silver quarter was encountered. This was repaired in the usual way; the abdominal cavity mopped out, drainage introduced and the abdomen was closed. This patient made an uninterrupted recovery.

One factor in this case that doubtless contributed to recovery was the fact that he had eaten his supper at 5 p. m., and had neither eaten nor

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drank anything after that hour. This allowed for sufficient time to elapse for the stomach, duodenum and upper bowel to empty themselves, consequently there was absolutely no extravasation of bowel contents and no infection.

The important lessons that such cases teach us are:

1. Due consideration should be given to the history of any injury received about the anterior abdominal wall.

2. Morphine should absolutely be prohibited until a positive diagnosis and a line of treatment have been determined upon.

3. That little or nothing can be hoped for from the medical treatment of such cases. That success will depend entirely upon the promptness with which the abdomen is opened.

802 N. High Street.

MODERN TREATMENT OF GONORRHEA.

By Eugene A. Scharff, M. D., St. Louis, Mo.

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[Written for the Medical Brief.]

In speaking of the modern treatment of gonorrhea, I want to outline the treatment as I had occasion to observe it in one of the largest clinics in Europe, namely, that of Professor E. Finger in Vienna, with whom I had the honor of being associated as voluntary assistant for a period of four months.

I was much impressed with the results obtained by Finger in his treatment of gonorrhea in both sexes, and therefore want to describe some of his most modern teachings.

The diagnosis is made by the usual well-known symptoms and is verified by a microscopical examination of the discharge. Regarding this I want to lay stress on the importance of making more than a single stain such as methylene blue in cases of doubt as to the identity of the gonococci, as there occur such a variable number of bacteria in the urethra, which so often resemble the gonococcus that one should in these cases make a Gram stain as well as a culture.

The gonococci having been demonstrated, your next duty is to ascertain the location of the trouble, whether superficial or deep, anterior or posterior, and whether acute or chronic. A new or first case of less than two weeks' standing will be an acute, anterior gonorrhea, as it takes about two weeks for the infection to extend from the anterior to the posterior urethra, while 90% of all cases of gonorrhea that are over three weeks old are situated in the posterior urethra.

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To establish the location of the trouble in the male urethra, the patient reports to you, having retained his urine for three or four hours; we then use what is known as the irrigation test, which consists in inserting a soft rubber catheter to the cut-off muscle, and by means of a 100 c.c. syringe attached to the outer end of this catheter, flush out the anterior urethra with cold, clean water, catching up the washings at the meatus, which will contain the contents of the anterior urethra.

Now have the patient pass his urine in two glasses, and the first portion will be the contents of the posterior urethra, plus bladder, while the second portion will be purely bladder contents. Should this second portion be cloudy, it does not necessarily denote a cystitis, but denotes the presence of pus in the bladder, which may be (as it often is) due to pus flowing from an over-distended posterior urethra back into the bladder and clouding the entire urine in the bladder. In these cases, the bladder may be perfectly healthy and still give this cloudy urine, the intensity of this cloudiness depending, of course, on the interval since last urination.

This test is generally only necessary in subacute and chronic cases, as the two-glass test alone will satisfactorily establish an acute anterior urethritis.

Having established the location of the trouble, your treatment must now be outlined.

Acute gonorrhea is treated symptomatically. First, try to reduce the hyperemia of the urethral mucosa. In order to reduce the inflammatory condition, you must get rid of the exciting cause, which is the gonococcus. This must be done with anti-bacterial measures, which will not harm the urethral mucous membrane.

The preparations used for this purpose are divided into two groups: the first group, or antiseptics, and the second group, or astringents. Among the most desirable agents in the first group may be mentioned protargol, largin, argonin, argyrol, albargin and novargan. Those of the second group are silver nitrate, argentamin and ichthargan.

In acute gonorrhea the gonococci first invade the orificium urethræ, then the fossa navicularis. They travel over these parts for a more suitable soil, which they find in the cylindrical epithelia of the remaining urethra; here they multiply on the upper cylindrical epithelia and grow into the deeper parts of the surface of the urethra to the cubical epithelia and deeper connective tissue, where are situated the blood vessels, through which in turn there occurs a transudation of serum and phagocytes, which latter attempt to throw the gonococci off. There occurs here a proliferation of epithelia and infiltration of serum, then a leukocytosis and the gonococci wander into these. Pus cells are pushed to the surface of the mucous membrane and appear in the discharge from the urethra.

At the end of about the second week of this process, the gonococci have been thrown off from the connective tissue. Now you get a pro-

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liferation of the epithelia to replace those thrown off and what gonococci remain are in the superficial layers, where they may multiply. This is the critical time for your patient, because should there occur an exacerbation due to excesses, or a pollution whereby the hyperemia is increased and the occurrence of tears in the mucous membrane of the urethra, the gonococci go deep into the tissues again, and the above process repeats itself, maybe several times, and with every repetition the gonococci become deeper implanted in the connective tissue, and you thus get a chronic from an acute gonorrhea.

If the mucosa urethræ had no glands, it would be easier to handle the gonorrhea, but owing to the glands of Littré and their ducts into which the gonococci wander, it makes them hard to reach.

The antiseptics act only on the superficial mucosa, and are therefore insufficient, so you must follow them up with astringents or irritants which bring out the gonococci from the deep.

If the acute symptoms of a fresh gonorrhea cause mechanical obstruction, as phimosis, paraphimosis, or severe inflammation of the glans, you had better not start with injections, but use antiphlogistics and give internally the essential oils.

The latter, however, are only to be used when you can not use local treatment, which should be begun as soon as you have thus subsided any inflammatory conditions.

In your local treatment you may choose any one of the before-named antiseptics, but you must order your patient to obtain a syringe which should hold not less than ten to twelve c.c. The patient should be told to inject enough, say of a ¼% protargol solution, until the distension of the urethra becomes painful. The object of this is to distend the urethra so there are no folds, and so that your medication reaches all parts of the mucous membrane. The solution should be used cold and the fluid should be held in the urethra five minutes three successive times, every eight hours. You should increase the strength of your solutions, starting with ¼% protargol for two to four days, then ½%, then 1%, each for the same length of time, increasing according to the appearance of the urine.

After about eight days your patient will be much improved and may think he is well; you must then warn all patients not to stop treatment, as this is their most critical time. The antiseptics having now killed off the gonococci from the urethral surface, and all acute symptoms having disappeared, you now give your patient an astringent solution, preferably a ¼% ichthargan, or ¼% silver nitrate solution. This the patient injects once every eight hours, and holds in for four minutes until the urine clears up. Should there be a terminal catarrh manifested by a cloudy urine after withdrawal of medication, give a 2% bismuth subnitrate solution, to be injected for a few days.

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Always have your patient report to you about a week after you discharge him, to note whether through drink, pollution, protracted erection or coitus, any latent gonococci have been brought to the surface.

In acute posterior urethritis at the onset where the inflammatory symptoms are severe and the patient has a terminal hematuria, stop all local treatment and use sedatives until the severe inflammatory symptoms subside, then use Janet's irrigations preferably, with a big hand syringe, using your solutions warm. Use either one-quarter of 1% protargol, potassium permanganate 1-4000 to 1-1000, silver nitrate 1-500.

Begin with mild irrigations until the intensity of irritation and cloudiness of urine decreases, then use instillations of protargol 5 to 10%, ichthargan 1/40% to ¼%, or silver nitrate ½ to 2%. If the urine becomes cloudy, however, go back to the washings.

While treating the posterior urethra with instillations, the patient should also inject mild antiseptics into the anterior urethra and should take internally sodium salicylate in fifteen-grain doses three times daily.

Catarrhal prostatitis is a very common complication of posterior urethritis. It is shown by the presence of pus cells and gonococci in the prostatic secretion. This examination should be made in every case of posterior urethritis.

Gonorrhea in women localizes itself in three places: Most often in the urethra, next in the cervix, and lastly in the Bartholin glands, of which latter the left is more often affected than the right, for some unknown reason. The female urethra is four to five cm. long and separated from the bladder by the sphincter vesicæ internus, so the inflammation is very often limited to the urethra; women develop cystitis, but not as often as men.

Alongside of the female urethra there are two paraurethral ducts, which become very readily infected in gonorrhea.

The symptoms of a simple urethritis in the female are mostly burning on micturition, but if the bladder is involved, the symptoms of cystitis, extreme pain and frequency of micturition are marked.

The gonococcus does not attack, nor grow on the mucosa of the vagina of an adult. In children, however, you may have a gonorrheal vaginitis, as here the vaginal mucous membrane is made up of cubical epithelia, while in the adult there has been a transition to squamous epithelium on which gonorrhea will not develop.

Bartholinitis is either an inflammation of the ducts of the glands alone, or of involvement of the ducts and glands. You may have abscess formation in which the entire gland breaks down, or you may have a walling off, or cyst formation, which may get to be the size of a walnut and may remain for years.

For Bartholinitis gonorrhoica, first massage the gland, and try to express the gonorrheal pus, then inject a 1% silver nitrate solution if

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possible through the duct with a blunt needle, or a 15% protargol solution may be used.

The most dreaded complication of female urethritis gonorrhoica is an involvement of the glands of Skene. This is a condition that is difficult to reach for treatment, and the gland should be removed *in toto*. This occurs in about ½% of female gonorrheas. Cervicitis gonorrhoica sometimes occurs alone, without involvement of the endometrium. This, however, occurs but seldom; still Finger claims that the cervix should always be treated separately, beginning with silver nitrate, 10%, or tincture iodine, or 5% trichloratic acid, the latter acting nicely in erosions about the cervix.

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GENERAL HINTS ON THE DIAGNOSIS AND TREATMENT OF SKIN DISEASES.

By G. W. Spencer, M. D., Cleveland, Ohio.

[Written for the Medical Brief.]

The almost universal opinion among medical men that the diagnosis and treatment of skin affections is both difficult and unsatisfactory, is born of the fact that the students of this branch of medicine have adopted a nomenclature and treatment both complicated and unscientific.

In the diagnosis of diseases in other organs of the body, the names have been largely coined from the name of the tissues involved, and from some pathological changes produced in the structure or derangement of some function of the organ affected, as for example, pericarditis, endocarditis, cerebritis, hepatitis, myelitis, neuritis, etc., preceded or followed by some qualifying word to more clearly express the condition found as acute, chronic, subacute, hypertrophic, senile, etc.; only a few old and meaningless names are left to indicate some known or unknown diseased process.

In skin diseases not only has the old nomenclature been preserved, but equally ridiculous names for skin affections are being constantly added to the now far too voluminous list.

Every ambitious dermatologist thinks that, in order that his name may be written upon the roll of honor, he must coin some new word to describe a variation in some very common skin disease; or, because the disease attacks some particular region of the body, the name must be modified, or some qualifying word added to indicate the location, for example, eczema capitis, plantaris, facialis; or to indicate some variation in the manifestations of the disease, as rubrum, madidans, seborrheicum, etc., or dermatitis caloricum, exfoliativum pustulare, papulare, or a name lately coined by a distinguished dermatologist in Cleveland, Ohio, "prurigineous

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eczema." Many more examples might be added, but it is unnecessary, because the above hint indicates the common custom.

The flights of imagination indulged in by the older dermatologists and some of the modern, surpasses the conception of a normal mind. A distorted mental vision likens one eruption to blisters and calls it pemphigus, when in reality the lesions are pus sacs of varying size.

Another imagines a papular disease to resemble a species of plant called lichen, and then in addition uses the name lichen in connection with eczema or some form of tinea of the skin.

Still another has applied the name ichthyosis to a scaly form of skin disease, because he imagined the appearance resembled fish scales. The parasitic diseases and infections are not so mixed with the imagination, thanks to the development of the microscope and culture media.

The above hints give an idea of the reason this class of diseases is so difficult to diagnose and classify in accordance with the literature of the subject.

When we consider that at least 60% of the diseases of the skin are inflammatory, it should simplify the diagnosis; some writers have very appropriately classified the inflammatory cutaneous diseases as catarrhs.

When inflammations affect certain special structures, the diagnosis becomes less difficult; for example, eczema, which constitutes about 47% of all skin diseases, is a special inflammation of the rete mucosum, hence its exudative character, especially in the acute forms. The presence of an exudate of serum into the skin is the one point always to be borne in mind in the diagnosis, notwithstanding such an exudate may occur in other forms of disease, but it is not so constant a factor.

Inflammations or catarrhs may occur in appendages of the skin, namely, the seborrheic glands, sweat glands, or even in the hair follicles; therefore, the only necessity is to locate these inflammations and you have a name thoroughly applicable to the disease.

When these diseases become subacute or chronic, the difficulty of diagnosis may be increased. Then the only way by which to work out a diagnosis is to get a full and complete history of the course of the disease and mark the pathological changes that have taken place during the course of the affection, and from these changes you can coin your own name. To illustrate again, take the common disease eczema: eczema rubrum is so called because of the red, bleeding surface left after the epithelial layer of the skin has been destroyed; weeping or eczema madidans is so called because of the weeping surface, drops of serum appearing on the skin; eczema squamosum, a chronic dry scaling form of the disease; eczema seborreicum, characterized by an involvement of the seborrheic glands.

Any name which expresses the condition is equally as scientific and acceptable as the classical names.

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Under the name of dermatitis comes a long list of diseases, which are no more inflammatory than eczema, only they do not as uniformly have the exudation so characteristic of eczema.

Under the former are classed twenty different forms; under the latter, sixty different varieties are mentioned, all of which are practically unnecessary, for all can be classed under two heads, eczema and dermatitis, or even one head, dermatitis.

Under the head of syphilodermata about twenty different forms are described. On account of the protean character of syphilitic eruptions, great care must be exercised in making a diagnosis, especially when a direct history can not be obtained. A few points are absolutely necessary to take into account. They are as follows: prior manifestations of the disease, *e. g.,* the initial lesion, sore throat, general malaise, location of the eruption, color (not considered now as important as formerly); usually, absence of itching, the scaly appearance, etc. The forms the syphilitic eruptions may assume are many, from a mere macule to large tubercles and ulcerations, and should always be borne in mind.

The disease called sycosis, an affection usually of the beard, to which is applied several names, need only be considered under two heads (a) coccogenous, due to pus infection and characterized by a diffuse inflammation, accompanied by symptoms attending inflammation generally; (b) hyphogenous variety due to a fungus, usually invading the hair follicles, accompanied by a low grade of inflammation and formation of nodules of varying sizes.

The ringworm, tinea tonsurans, is recognized by the tendency to form circular patches upon the head or other hairy portions of the body. The hair has a peculiar, lustreless, stubby appearance.

A large class of diseases are created by the different species of this family of fungi, which is unnecessary, practically. The only important thing in the diagnosis of this class of skin affections is to recognize the nature of the infection. Then any name you might apply to express their appearance would be equally as scientific as the names now given.

A class of skin affections classed as neurotic are varied, and in naming them no reference is made to their causes, which tends to confuse the student. Disturbance of the sensation of the skin without an eruption, or if any, discrete small papules, is usually neurotic in orgin. A real dermatitis may have a neurotic orgin. Herpes zoster, urticaria and some angioneurotic disturbances are common affections due to nervous derangement.

In making a diagnosis of a skin disease, approach the case with the same idea in mind as when examining any other diseased organ of the body, and look for pathological changes that may have occurred or any deviation from the normal function, and, if possible, determine what particular structure is involved or what particular function may be disturbed,

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and the problem of naming and classifying will be simplified to a great degree.

The *treatment* of skin disease has, until within the last decade, been still more difficult and unsatisfactory, for the following reasons: first, until within the last half of the nineteenth century there had been no special systematic study made of this class of diseases. Not until Hebra's time was there anything like a scientific investigation carried on when he established a dermatological school, called "Hebra's school," to which there are many adherents, even today. His study was confined principally to the local pathological changes, which lead to considering cutaneous diseases as idiopathic rather than symptomatic. The consequence of this was that local treatment was the chief dependence, and even had the symptomatic character been more prominently recognized, the materia medica and therapeutics would have been much more inadequate for a successful treatment than at the present time; second, in consequence of the above, great disappointment has been experienced with the methods of treatment, followed by a confirmation of the opinion that this class of diseases was hard to treat successfully.

Hebra said that there were a few cases of skin diseases that arsenic would cure and the rest would beat the *Devil*. Therefore, all kinds of local treatment, the most of it harmful or at least beneficial only in a few cases, and arsenic, were the main dependence in treatment.

John Hutchinson, of London, a veteran in this class of diseases, once said, when giving the results of his investigations as to the question whether arsenic caused cancer or not, "Would it not be too bad if we had been causing people to have cancer by our too indiscriminate use of arsenic, especially for skin diseases?" From the physiological action of arsenic, we might conclude that many cases of dry, scaling diseases may have been caused by a long-continued use of the drug.

Internal treatment is becoming more important as we better understand the etiology of skin diseases, and with an intelligent, conservative local treatment, greater success is being experienced.

There are three points always to be borne in mind when applying local treatment: (a) Remove the debris left by the disease; that is, clean the surface thoroughly of crusts, dirt, pus, etc.; (b) After removal of the accumulation, render the surface aseptic as possible by the use of mild antiseptic solutions; (c) The permanent dressing or application for constant use should be selected according to the conditions found. If acute inflammation is present, a soothing, mildly astringent, antiseptic lotion, ointment or dusting powder is best. If chronic conditions are present, characterized by poor circulation, ulcerating surfaces, or hyperkeratosis, a stimulating antiseptic dressing is indicated, and if parasitic, antiparasitic remedies are essential.

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The most important treatment is the general medical, which consists of (a) attention to the digestion and assimilation, and (b) determination of the condition of the katabolic processes and elimination of the waste products; (c) the nervous system comes in for a thorough investigation; (d) the determination as to the presence or absence of organic disease of any organ or organs or systems, and (e) the habits of the patient and his environment should also always be considered.

In a paper read by Dr. L. Duncan Bulkley, before the Medical Society of the State of New York, January 29, 1907, entitled "Danger Signals from the Skin," he gave an idea of the broad significance of skin eruptions as related to internal conditions. A few quotations will illustrate the facts:

"Eczema is so often regarded and too frequently treated as a wholly local disease of the skin, often without success. In certain cases it gives signals of danger of no uncertain character. General eczema is almost always a sign of nervous or physical breakdown, and a most careful study of the patient in every particular will often reveal gross errors in life or habits, which, if not checked, will lead to direful results.

"Localized neurotic eczema of the hands or about the mouth will also indicate a nervous strain to which the patient may succumb, unless properly attended to. Eczema about the eyes is sometimes due to eyestrain or errors of accommodation which call for special attention."

"Metabolic errors are indicated by full, plethoric habits, with a hard, bounding pulse; a weak, flabby pulse indicates anemia or a greatly debilitated system. Therefore, we see that eczema may sometimes be a blessing in disguise, if its danger signals are recognized, properly regarded and correctly interpreted."

"Acne is often a danger signal, which it is not wise to ignore. It may be a sign of grave metabolic disturbances, dependent on gross errors of diet and hygiene, anemia, menstrual function, and when on the chin, look for some disorder of the sexual apparatus." Thus we see that acne is not only a local disease, but may indicate grave internal disturbances.

In the same way Dr. Bulkley takes up psoriasis, chronic urticaria, erythema multiforme, pruritus, xanthoma diabeticorum, boils and carbuncles, dermatitis maligna, angiomata, lupus vulgaris, etc.

In the same way, all skin affections not due to a discoverable local cause must be studied if we expect to treat them successfully. In other words, we must forget the simple appearance, and find the cause, frequently obscure and deep-seated."

Much investigation is yet necessary to place the treatment of skin diseases upon a scientific basis, and such is being carried on at the present time more than any time in the history of this branch of medicine. A proper interpretation of skin lesions will lead to the diagnosis of many other diseases in their incipient stages, their location and an indication of the degree of their advancement.

830 Rose Building.

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MEDICAL NOMENCLATURE.

By Howell B. Gwin, M. D., Nashville, Tenn.

[Written for the Medical Brief.]

Some years ago, while pursuing the study of anatomy at the University of Louisville, my attention was arrested by the unscientific, puerile and often absurd namings that exist in our medical vocabulary. There appeared to be about sixty or seventy-five parts of the human body having the names of men; besides these, there are many indefinite and nondescript names, such as acetabulum, for which I would suggest the name of octoform. Some of these names have been displaced and others are doomed.

Misnomers occur, also, as regards both diseases and their remedies. It is a mark almost of mental imbecility to continue such names as Addison's, Bright's, Pott's, Graves' disease, etc. Some of the names of this class are properly supplanted, such as chorea for St. Vitus' dance, erysipelas for St. Anthony's fire. Again, as regards remedies, surgical and medicinal, note Colles' fracture, Cæsarean section or Sanger's operation, Loreta's operation, Wardrop's operation and Warburg's tincture, Blaud's pills, Buckley's uterine tonic, Dover's powder, epsom salts, rochelle salt, etc. As an interesting study, track this false nomenclature through your medical dictionary, catalogues, and literature.

Few things are well defined, more are proximately described, but many are whimsically denominated, *e. g.*, electricity from the Greek word elektron, amber, an agent from which it is supposed to have been derived, and in medicine, calomel, derived from the combined stems of two Greek words, meaning beautiful black. While such names are arbitrary, they are now fixed and have the force of a proper name given to a person. I shun the rôle of a mere "purist," a stickler for an impossible accuracy, but as science advances, definitions and names will become clearer and more satisfactory.

It is proper to state that besides the sciences embraced in medicine, these *lacunæ* of speech characterize all other sciences. Such imperfections inhere in every human mind, which, according to Emerson, has its limitations.

> Defects through Nature's productions run,
> We have spots, and spots are on the sun.

As examples, in geology many names are geographical, in botany many are personal or fanciful, such as Fuschia, named after a man, and nasturtium, meaning a twisted nose. Finally, I make mention of a proposal of a factitious name made by the friends of the sweet-singing poet of Georgia, who proposed his name, Lanier, for the Southern songster of the woods called the "mocking bird." Appreciation of Lanier is one thing and the destruction of the name of this charming bird is quite another—a name, as I discovered last summer, given 300 years ago by Capt. John Smith, the early settler in Virginia, as the "mock bird."

Let us, as far as possible, repudiate the false, annul the whimsical and exalt the true in all speech and literature.

482 Church Street.

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CORRESPONDENCE.

Why Not Administer the Best Remedy First?

Editor MEDICAL BRIEF:

I have read with much interest the excellent article in THE BRIEF from the pen of Dr. Kenner, on "Dysentery," but while reading it I was reminded of the Irishman who once applied to a lawyer for advice. The lawyer told him there were two or three ways by which he could be relieved of his troubles. Quick as a flash the Irishman said, "Begorra, try the best one first, sor, and we'll not need the others." Dr. Kenner mentions quite a number of different remedies, among which are whisky, epsom salts, bismuth and salol, alum, nitrate of silver, dilute sulphuric acid, etc., but adds, "when these remedies fail I resort to that remedy which has won the confidence of able and practical physicians everywhere. I refer to ipecac. This agent is capable of bringing about a cure when all other means have failed, etc."

Now, I would like to ask the Doctor, not in a spirit of criticism, but for information, why not administer the best remedy first? Is there any reason why ipecac should be used only as a last resort? Because I have never noticed any untoward effect from its use, and, in fact, so far, nothing but good results have followed its administration in my practice.

S. E. GIBBS,
8 West 128th St., New York.

The Treatment of Acute Dysentery.

Editor MEDICAL BRIEF:

SIR—In the July issue of your esteemed journal, Dr. Robert C. Kenner, of Louisville, Ky., writes under the above title, giving a list of remedies, but omitting the most reliable, the most rational treatment, namely carbonic-acid-gas inflation of the rectum. I beg to refer to my papers on this subject, published during the last twenty-five years, and to the chapter, "Carbonic Acid Gas Treatment of Dysentery," in my book, "Carbonic Acid in Medicine."

Carbonic acid gas applied to mucous surfaces stimulates capillary circulation, and has an anesthetizing influence; this is especially remarkable when the gas is applied to painful or irritable ulcers of the mucous membranes; here it is indeed the ideal remedy. Studying the literature, I learned that Kuester and Perkins, who lived in the eighteenth century, had treated dysentery by inflation of the rectum with carbonic acid.

In the year 1883, after having exhausted in vain all kinds of bet

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recommended means in a case of dysentery, I had resorted to the treatment practiced a hundred years ago, and in the *Annals of Anatomy and Surgery,* December, 1883, I published the gratifying results of my method in this case. During the last twenty-five years I have inflated the rectum with carbonic acid in all cases of dysentery which have come under my treatment, and invariably have noticed the prompt effect on the tenesmus and the curative influence on the disease. As a rule, patients have spoken with enthusiasm of the relief they obtain. The physiological effect of carbonic acid gas inflation suggests itself as a most rational remedy in cases of dysentery, and I can not conceive any reason why this method of treatment, which is simplicity itself, has not become popular, except it is just this simplicity which is not appreciated by physicians, who prefer complications. If we were living in the seventeenth century, at the time when calisaya bark was introduced into Europe, there would be another reason for its not becoming popular. Physicians in the year 1640 were against the use of calisaya bark because it cured intermittent fever too quickly, depriving them of a certain amount of income.

The carbonic acid generator to be employed for inflation can be improvised at any drug store, and is inexpensive.

A. ROSE, N. Y.

Puerperal Convulsions.

PERRY, S. C., August 5, 1908.

Editor MEDICAL BRIEF:

In August number of BRIEF, page 439, is an article by Dr. John Snow, of Pine Apple, Ala., entitled, "Puerperal Convulsions," in which he makes some timely remarks, and gives a good treatment.

Having had a large and long experience in puerperal convulsions, I will give through BRIEF my treatment for same. As I understand it, puerperal convulsions are only symptoms of a deeper underlying cause, namely, uric acid poisoning. In nearly all, if not every one, you can tell by prominent symptoms several weeks beforehand when you may expect such an outcome. When confinement takes place the patient will invariably complain of headache, shortness of breath, swelling of the feet and hands, sometimes all over; they will become pale and anemic; the headache becomes most troublesome; also a very scanty supply of urine is voided at this time. If these symptoms are found in a patient near the end of pregnancy you may be certain to expect to encounter convulsions during or after confinement.

Now, if you can see your patient several days before confinement takes place, you can, with the use of cream of tartar and veratrum viride, cut short or entirely avoid convulsion. I have given veratrum viride (Norwood's) in twenty- to thirty-drop doses, hypodermically, with the most

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gratifying results. Sometimes a much smaller dose will suffice, as I consider veratrum a specific and antidote in all cases of uremic poison, given in proper dose, which must be ascertained by strength of patient, for it will certainly bring about a reaction that is permanent and beneficial. The above dose may seem to you, at first, as being very heroic and out of all reason, but I have administered it in from five to thirty minims in thirty-odd cases in the last ten years without having had to regret it in a single case. I generally try to make my dose to suit the urgency of the symptoms present, or the amount of uric acid that seems to present itself at the time I am called. In the thirty cases I used the drug hypodermically in every case. When reaction takes place between the veratrum and the uric acid poison, there is generally some very alarming symptoms, and you may think your patient is paying you her last tribute of respect, but in a few minutes your heart will be made to feel glad by seeing the return of life again, without the convulsions. I have never seen a patient have a single convulsion after you have once stopped them with veratrum viride. The antidote to veratrum viride is sulphate morphine, also to be given hypodermically, and I have not yet had to give the antidote in any larger dose than one-quarter grain. I could report several interesting cases of puerperal convulsions, but time will not admit, and I am also taking up too much of your valuable space. I will report them later.

J. A. MILHOUS.

CASE OF IDIOSYNCRASY FOR EGG-ALBUMIN.

P. Landmann (*Muench. Med. Wochenschrift,* No. 20, 1908, Archives of Diagnosis, July, 1908,) report this case of idiosyncrasy which existed throughout the patient's life, beginning in earliest childhood. Proteids other than the white of egg did not nauseate the patient. As a boy he was affected with urticaria, brought about by ingesting egg-albumin which he had partaken unknowingly. If he takes egg-albumin in the smallest amount (without his knowledge) toxic phenomena of an alarming character will invariably supervene, such as vomiting, diarrhea, etc. If the egg-albumin is applied externally, the untoward reaction will also occur. Auto-suggestion is absolutely excluded.

MERCURIAL INTOXICATION.

Bernard and Troisier (*Gaz. des Hopitaux,* No. 61, 1908, Archives of Diagnosis, July, 1908,) report a case of mercurial poisoning in which cerebro-spinal symptoms were present. The cerebro-spinal fluid showed lymphocytosis and albumin. The patient was intensely anemic. There was a temporary icterus which the writers thought was hemolytic, and due to the anemia.

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CURRENT MEDICAL LITERATURE.

The Function of the Greater Omentum.

B. Prsewalski (*Berliner klin. Wochenschrift,* July 6, 1908) takes up the question of the function of the greater omentum. Descriptive anatomy calls attention to the omentum majus, the omentum minus, bursa omenti majoris et minoris, ligamentum gastrocolicum, gastrolienale and phrenicocolicum. It has been definitely established that the suspensory parts of the omentum system act mechanically by holding up the intestines and by protecting the abdominal glands from injury. But little has been said, however, concerning the function of the free greater omentum. Ranvier thought that the greater omentum is identical functionally with the lymphatic glands, but this has not been subscribed to by all observers. Roger thinks, for example, that the omentum is a special bacteria-destroying protecting organ, while Boeri and Renci give it as their opinion that the omentum has a special anti-toxic action, basing this conclusion of their animal experiments as follows: Normal animals continue to live after ligation of the splenic blood vessels, but die after resection of the omentum. Witzel thinks that the omentum is a blood regulating apparatus for the abdominal organs. Heger maintains that the omentum acts as an absorbing medium, because it takes up particles of metallic powder, etc. (established by X-ray pictures). Morrision took up the radiography of the omental function, calling it the "abdominal policeman," acting quickly against anything inimical to the contents of the belly. Milian called its function the "defensive epiploic mobilization" and endeavored to ascribe to it a kind of intelligence.

There are certain complicated epiploic functions which are elementary to the greater omentum, and they can be classed as follows:

1. Watery and crystal solutions are absorbed by it (G. Wegener, Danielson, the latter considering this property due to the blood vessels).

2. It takes up colloidal substances, bacteria and uninuclear bodies such as India ink, cinnabar, etc. (Muscatello, Heusner, Danielson, which property the latter ascribed to the lymph vessels).

3. It presses firmly upon the intestines during peristalsis and remains pressed firmly against the gut.

4. It overcomes certain kinds of peritoneal inflammation.

5. It encapsulates certain kinds of abscess formations, assisting in wound healing (Jobert, Carnot and Corneil, Tietze, Enderlen, Senn, Girgolaw, Rindfleisch, Rydgier, Braun, Bennet).

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While these elementary functions are well understood, yet the principal function of the greater omentum has not been made clear, *i. e.*, its presence prevents intestinal occlusion by keeping the bowels from twisting themselves during peristalsis. A number of experiments on dogs, made by the writer, showed this to be its function. In other words, it regulates peristalsis and therefore deserves to be called "ligamentum convolutorium intestini tenuis."

Ventrosuspension an Unsafe Operation for Posterior Displacement of the Uterus During the Child-Bearing Age.

E. B. Cragin (*Surgery, Gynecology and Obstetrics,* July, 1908) calls attention to the fact that since the publication of the paper of Noble, in 1896, on ventrosuspension, it is recognized that a firm fixation of the uterine fundus to the anterior abdominal wall is followed in a certain number of patients, who subsequently become pregnant, by a dystocia perhaps so marked as absolutely to indicate Cæsarian section. Two varieties of fixation of the uterus have been performed; first a *ventrofixation,* where suture is passed through the entire abdominal wall except the skin, and then through the fundus uteri; secondly, ventrosuspension, where suture is passed through the peritoneum and subperitoneal tissue of the abdominal wall and then through the fundus uteri, the object of the operation being to get a suspensory band or bands allowing mobility of the uterus, but no retroversion. We know that many operations for ventrofixation have resulted in practically ventrosuspensions, *i. e.*, the adhesion between fundus and wall stretched sufficiently to allow mobility of the uterus; also it is true that ventrosuspension may become ventrofixed in any one of the following ways: The area of adhesion between uterine fundus and abdominal wall may be broader than expected and the resulting band may be too firm to allow uterine mobility. Secondly, infection of the abdominal wound may fix the fundus and the anterior uterine wall firmly to the abdominal wall. Thirdly, a ventrosuspension which allows a normal delivery in the first pregnancy following operation may subsequently become a ventrofixation, and produce dystocia so marked as positively to indicate Cæsarian section in the second postoperative pregnancy.

Cragin further points to the anatomical results of pregnancy in a uterus firmly fixed to the anterior abdominal wall as follows: The only part of the uterine body that expands to accommodate the growing fœtus is that behind the point of suture attachment to the abdominal wall; the point of suture attachment of the uterine walls shows a thickening and sometimes actually a muscular tumor above and below, forming a marked obstruction in the parturient canal; that part of the uterine wall behind the point

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of suture attachment may become so thinned during pregnancy as to rupture during labor (*vide* experiences of Von Guerard, Dickinson, Brodhead, Clark and Bowley, Edebohls and Ingalls); the cervix is thrown upward and backward so that at full term it may be at the level of or above the promontory of the sacrum.

Cragin catalogues five cases where ventrofixation later required the performance of a Cæsarian section in each and every case to permit delivery of the child from the pregnant uterus. These five cases represent operations performed by five different men, and save in the fifth case it was not known whether ventrofixation or ventrosuspension was intended. The fifth case was a ventrosuspension, performed in 1902, for the correction of retroversion. In 1903, she gave birth to a child without any difficulty, yet when she was pregnant again, in 1908, it was impossible to deliver the child at term, save by means of a Cæsarian section, owing to the fact that in the six years elapsing since the time of the ventro-suspension operation, the adhesion-band had become so thickened as to practically act as a rigid and immovable bar, effectually holding up the cervix and preventing delivery in the natural way. This case seemed to demonstrate beyond a doubt that ventrosuspension is an unsafe operation for posterior displacement of the uterus during the child-bearing age.

The Thermal Death Points of Pathogenic Micro-Organisms in Milk.

M. J. Rosenau (*Hygienic Laboratory,* Bulletin No. 42, U. S. P. H. and M. H. S., 1908) states that the temperature at which milk should be pasteurized hinges upon the thermal death points of the pathogenic bacteria which contaminate it. The pathogenic bacteria, commonly found in milk, are those causing tuberculosis, typhoid fever, diphtheria, scarlet fever, dysentery and Malta fever. The staphylococci, streptococci, and the organisms causing infantile diarrhea, are all readily destroyed by heat. Rosenau gives a review of the literature covering the question, and then gives the details of a number of carefully-conducted experiments performed by him to determine the question in hand. As a result of all his experiments, he concludes that it is difficult to determine precisely at what moment, or at what temperature a micro-organism dies. The fact that a micro-organism will not grow upon artificial media is not always a sure sign that it is dead; but, with the exception of the tubercle bacillus, it is safe to assume that, ordinarily, bacteria that fail to vegetate upon suitable media, under favorable conditions, have at least lost their virulence and power to infect, especially when ingested by the mouth.

The vegetability of micro-organisms *in vitro* does not always correspond to their ability to grow in the animal host. This is especially true of the tubercle bacillus. On account of the reluctance with which this

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bacillus grows upon culture media, it is necessary to resort to animal inoculations in order to determine its thermal death point. It is probable that the tubercle bacilli in milk, which are so attenuated as to be unable to cause tuberculosis when injected into the peritoneal cavity of a young guinea pig, would be harmless when ingested by man.

In these experiments upon guinea pigs it is important to differentiate the lesions produced by dead tubercle bacilli, which closely resemble those caused by living tubercle bacilli. In doubtful cases, it is necessary to inoculate the products of the lesions into another animal to determine the presence or absence of living micro-organisms.

The writer states that the cultural experiments upon thermal death points are surrounded by many sources of error, and numerous pitfalls, all of which must be avoided to get accurate results. In order to get results of accuracy, conditions of practical pasteurization were imitated in the experimental work done by Rosenau. The micro-organisms were heated in open test-tubes, and the temperature and other factors accurately controlled. Scum formation was disregarded, as it was the intention of the experimenter to reach results that might be applied with confidence in practical pasteurization on a large scale against natural difficulties. Results of nine series of tests upon guinea pigs, with five cultures, plainly show that in milk the tubercle bacillus loses its virulence and infective power when heated at 60° C. for twenty minutes; in other words, it may be considered dead. When heated to 65° C., a much shorter time is necessary. The results correspond, in the main, to those previously recorded by Yersin, Theobald Smith, and others. It should be remembered that the milk in these tests was very thoroughly infected with virulent cultures, indicated by the prompt death of the control animals. Milk practically never contains such an enormous amount of infection, under natural conditions. Therefore, if milk of this kind is rendered innocuous by twenty minutes' heating at 60° C., it is safe to assume that ordinary market milk slightly infected with tubercle bacilli, is also rendered innocuous by the same means.

There was ample evidence to show in these tests by Rosenau that typhoid bacilli in milk are killed after being subjected to twenty minutes' heating at 60° C. The great majority of typhoid bacilli are killed after the temperature reaches 59° C. The diphtheria bacillus usually dies after the temperature reaches 55° C. The cholera vibrio is also destroyed at 55° C. Only once did it survive until the temperature of 60° C. was reached. The dysentery bacillus is slightly more resistant than the typhoid bacillus, requiring a temperature of 60° C., maintained for five minutes, in order to kill it. At 60° C. all the organisms of Malta fever are killed. Milk heated to 60° C., and maintained at that temperature for twenty minutes may, therefore, be considered safe, so far as conveying infection with the micro-organisms tested is concerned.

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Congenital Unilateral Absence of the Urogenital System and Its Relation to the Development of the Wolffian and Muellerian Ducts.

Henry E. Radasch (*The American Journal of the Medical Sciences,* July, 1908) says that congenital absence of the urogenital system was mentioned by the older writers, Aristotle, Vesalius (1543), Eustachius (1707) and others, but no distinction was drawn by these observers between atrophied, fused and undeveloped kidneys. Mosler first systematically drew up a list of the cases and tabulated fourteen cases of absence of the kidney, in seven of which the ureter failed to develop, and in two the kidney was rudimentary. In Beumer's collection of forty-eight cases observed from 1853 to 1878, in forty-four cases the kidney was absent, in four it was rudimentary, genital defects being present in thirteen instances (eight females and five males), in three of the males the seminal vesicles and vas were absent, in one case the testicles were absent; in the other the normal genitals were present, but in addition there existed a 38 mm. vagina and a 25 mm. uterus, on the right side. In females, the malformation of the genitals was mostly a bicornate uterus and absence of one tube or one-half of the uterus or vagina. The ovaries were present in all cases.

Again, Ballowitz collected 213 cases up to the year 1895, finding that the left side was more commonly affected than the right, a proportion of 117 to 88, with eight undifferentiated. The condition occurred in the male more often than in the female. There was the usual compensatory hypertrophy of the remaining kidney. In seventy-three there were defects of the genitalia, the efferent system, derivatives of the Wolffian and Muellerian ducts, being more affected than the ovaries and testicles, derivatives of the afferent system. In eighteen the uterus was bicornate, in five the uterus and tubes were absent, in ten the uterus was bicornate and contained a double cavity, while in two a double vagina existed. The external genitals were seldom affected. In the male the vas and seminal vesicles were usually affected; both were absent in thirteen instances, while in two the vas was wanting and the vesicles atrophic; in three the vesicles were absent and in four the ejaculatory duct was missing. In two the testicles were absent, while in eight they were atrophic and small. Numerous other cases were reported by other writers. The condition has also frequently been observed in animals, Radasch reporting one case in a cat where there was an entire absence of the right kidney, ureter and genital tract of that side.

In considering the embryology, account must be taken of the pronephros, the mesonephros and duct, and the duct of Mueller. The earliest organ to appear is the pronephros. This is a longitudinal tubule developed from the mesoderm, opening caudally into the cloaca, and a few transverse tubules at the cephalad end of the duct. The cephalad extremity opens into the abdominal cavity by means of a trumpet-shaped

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expansion. This pronephros functionates in the larval stages only of the amphibians, and gives way to the mesonephros or Wolffian body, which consists of transverse tubules that connect with the phonephric duct, and the latter became known as the meonephric or Wolffian duct. The mesonephric duct opens caudally into the cloaca. From this end the metanephric evagination, which becomes the permanent kidney, ureter and pelvis, appears. Also, in the male this duct gives rise to the body and globus minor of the epididymis, the vas, seminal vesicles and ejaculatory duct, but nothing of importance in the female. In the female the ducts of Mueller fuse for over half their length and ultimately form the uterus and vagina, while the unfused portions constitute the oviducts.

Absence of the kidneys may be due to the following causes: (1) Failure of the metanephric evagination to appear, even though the mesonephric duct and body be perfect; (2) appearance and early retrogression of the metanephric evagination; (3) failure of the pronephros, and therefore also the mesonephros, to appear. In the first instance, absence of the kidney in the male would be attended with few, if any, genital defects, and these would be coincidental and not sequential. In the second instance, the resultant conditions would be the same. In the third all such cases would be attended by absence of the kidney, ureter, efferent ductular system of the testicle, vas and vesicle on the affected side. In the female, in the first and second instances, there would be no genital defects, whether we assume the Muellerian ducts are derived from the mesonephric duct or are independent; such defects would be coincidental. In the third cause, if the Muellerian ducts are derived from the mesonephros partially or entirely, then as a result of its absence the entire internal genitals should be absent. Yet this has not occurred in any case, the uterus being absent or bicornate in but one-third of the cases. The facts as found in the adult body seem to indicate that the Muellerian ducts have an independent origin and are not derived from the mesonephric duct by segmentation, at least not in the higher vertebrates.

A PUS-REACTION OF DIFFERENTIAL-DIAGNOSTIC IMPORTANCE.

S. Wideroe (*Norsk. Mag. for Laegevid,* No. 8, 1907, *Archives Diagnosis,* Vol. I, No. 1, 1908) says that tuberculous pus dropped into Millon's reagent causes formation of lumps as described by Mueller; distinct red coloration of Millon's reagent by the pus points to the absence of tuberculosis.

Sir Oliver Lodge has been an inveterate golfer for thirty years. He learned to play at St. Andrews, under Professor Tait, who advised him: "You don't play golf with your muscles; you play with your morals." "But I hope," observed Sir Oliver, "no one will consider my morals as bad as my golf."

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EDITORIAL

THE ESOPHAGOSCOPE AS A DIAGNOSTIC AND THERAPEUTIC AID IN ESOPHAGEAL OBSTRUCTION.

Jesse S. Myer (*Medical Record,* August 1, 1908) presents an admirable contribution to the literature upon the subject of just how much information one can obtain in using the esophagoscope and just how much of a help it is in removing foreign bodies which obtain lodgment in the esophagus. He states that this instrument, like all other mechanical aids to diagnosis, depends for successful results upon the operator's technique and his ability to interpret his findings, just as we find it with the operator of the X-ray, the cystoscope, the endoscope or the proctoscope. In other words, to be a successful esophagoscopist requires frequent use of the instrument. And I take it the intent of the paper in hand is to show you just how easy it is for one to become an expert with this most useful instrument. Myer gives a review of the literature showing the development of the first esophagoscope of Mikulicz of the days of '81 down to the present-day modifications of Kelling, Kraus, Gottstein, Gluecksman, Killian and von Schroeder. Tubes of various lengths are used, with a hard rubber obturator, having a soft rubber tip. Killian and others use bougies instead of this obturator with a soft tip. There is a complete set of instruments especially prepared for removing foreign bodies of all kinds and shapes from the esophagus, as well as curettes for scraping off the surface for microscopic examination, instruments for applying drugs to ulcerated areas, and even a lens arrangement for photographing pathological lesions.

By means of the esophagoscope, foreign bodies may be readily removed from the esophagus with comparative ease. This brings back to the internist a group of cases which have been handled lately almost exclusively by the surgeon, and that, too, with greater glory for the internist, for the removal of foreign bodies by the aid of the esophagoscope is brilliantly successful and without danger. Their removal by the surgeon, on the contrary, has not always been successful, and the operation has always been fraught with the greatest danger to the patient.

Myer reports three cases of foreign body in the esophagus which were successfully relieved by the removal of the particular offending material through the medium of the esophagoscope. He also details the history of a case of benign stricture of the lower end of the esophagus; also, the history of a case of carcinoma of the esophagus and stomach, where the diagnosis was confirmed by means of this instrument.

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Turning now to the practical application of the instrument, it must be borne in mind that the upper third of the esophagus lies between the vertebral column and the trachea; it then crosses the left bronchus, coming in direct contact with the aorta, passing slightly to the left of the vertebral column and then through the hiatus esophagus in the diaphragm, running for a distance of two and one-half cm. intra-abdominally. The total length of the esophagus from the teeth to the cardiac orifice of the stomach is forty cm.; from the teeth to the cricoid cartilage is usually a distance of from fourteen to seventeen cm., and from this point on, where the esophagus practically begins, is a distance of twenty-five cm. The cervical portion of the esophagus is closed, the thoracic portion is open and enlarges with each inspiration. The portion between the diaphragm and the cardiac orifice is closed. The width of the tube varies from twelve to twenty mm. The narrowest portions, above which foreign bodies usually lodge, are (1) at the cricoid cartilage, twelve mm.; (2) at the hiatus esophagus, twelve to fourteen mm., and (3) at the crossing of the bronchus, seventeen mm.

Myer used the Killian instrument, with the patient in the sitting posture, rather than in the reclining posture upon the back or upon the side. The patient sits upon a low stool with some one in a chair behind him, supporting the back, pushing the chest forward and throwing the head back as far as possible. In this manner the mouth, pharynx and esophagus are brought into one line. Anesthetize the pharynx thoroughly with a ten per cent solution of cocaine. Tell the patients not to swallow immediately after the cocaine appliances are made. The bougie is introduced, extending six inches beyond the esophagoscope, with the head bent forward. As soon as the top of the bougie passes over the epiglottis, have the patient bend the head back as far as possible, and the instrument is slowly pushed over the cricoid cartilage.

When this occurs, the bougie is removed, while the esophagoscope is held in position. Light is thrown into the instrument through the aid of the panelectroscope, or the Kirstein lamp. It is then slowly introduced under the guidance of the eye. Provided aneurysm has been excluded, there is no danger from this introduction.

Among other details of this technique, Myer calls attention to the advisability of cocainizing the larynx as well as the pharynx to prevent coughing, which would call for the withdrawal of the instrument. General anesthesia is rarely necessary, except in the case of children or for prolonged examination in adults. Again, saliva and mucous accumulations at the end of the instrument frequently blur the picture. Myer overcomes this by dropping a small rubber tube down to the end of the instrument, removing the accumulation of saliva by suction by means of a bulb at the proximal end of the rubber tube. Two great obstacles in

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the way of examinations with the esophagoscope are a rigid cervical spine and a very convex cricoid cartilage. Another interfering factor is the presence of very long incisor teeth. Fortunately, in four out of five of the cases the writer reports, the patients had false teeth, which could be removed before making the examination. Myer issues a note of warning regarding the patient's statements regarding the location of a foreign body that has been swallowed: The patient can not interpret his sensations properly; first, because of the poor supply of nerves of sensation to the esophagus, and secondly, because of the reflex contractions which takes place at points above the location of the object. The chief symptoms of a foreign body in the esophagus are dysphagia, pain caused thereby, and a feeling of indescribable discomfort and pressure.

We are convinced that the esophagoscope has come to stay, and that he who fails to avail himself of it as a means of removing foreign bodies from the esophagus, as well as for making a diagnosis of obscure conditions in the esophagus, will be looked upon in the profession in the same way as one would be who neglected to remove an offending appendix or gall-stone, or like one who did not use the cystoscope in bladder conditions of doubtful nature, *i. e.,* derelict in his duty towards his patients. It is a matter of congratulation that the gloom and despair of both patient and physician, when confronted with a case of a foreign body in the gullet, is no longer the order of things. It appears not out of the range of possibility to believe that cutting operations for removal of foreign bodies from the esophagus have seen their best day, for by the use of the esophagoscope the mortality of a very dangerous and apparently unnecessary operation has been wiped out and, at the same time, a medical achievement with practically no mortality and with a high percentage of success has seen the light of day. Would that we had more medical achievements of this kind and fewer dangerous and futile surgical exploits of the other kind!

THE DEFECTS OF SOME N. F. PREPARATIONS.

Dr. W. J. Robinson, editor of the *Critic and Guide,* himself a druggist and, at one time, if we remember correctly, an earnest advocate of the use of U. S. P. and N. F. preparations in place of the proprietaries they are designed to displace, has been making some personal tests of these substitutes. He says: "I secured samples of practically every preparation which our noble pharmaceutical leaders have introduced into our Pharmacopœia and National Formulary as substitutes for well-known proprietary products, * * * and in *not one instance* was the imitation equal to the original in purity, taste, homogeneousness, stability, etc. Some of the preparations were absolutely rank, disgusting, and I could feel contempt, mixed with indignation, against certain high moguls of

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pharmacy who mislead the poor retail druggist and the unsophisticated physician into the belief that their careless, imperfect, theoretical, extemporaneous formulæ will yield products 'just as good' as the standard products, which are the result, perhaps, of many years of chemical or pharmaceutical research and which are prepared in specially adapted laboratories with the utmost care."

Dr. Robinson is a chemist and pharmacist of repute, and his conclusions can, therefore, be relied on. He does not, however, intend that his readers shall take his word entirely as to the truthfulness of his strong statements, but quotes and comments on a paper read by Professor W. H. Harrison, of the Northwestern School of Pharmacy, before the American Pharmaceutical Association. Professor Harrison's paper considers specifically the three proteid iron preparations of the National Formulary, to-wit: Liquor ferri peptonati, liquor ferri peptonati cum mangano, and liquor ferri albuminati. We take the following from Professor Harrison's paper, which includes some interesting comments by Dr. Robinson:

> "The present National Formulary formula yields a product which is a thick red-brown liquid, with a very *disagreeable gluey* odor. It is clear in neither reflected nor transmitted light, and of such a colloidal nature as to render filtration impossible even under greatly increased pressure. The taste is at first pleasant, followed by a strongly *alkaline* and *ferruginous* after-taste, which persists."
>
> He then proceeds to show the reasons why a good preparation is impossible. The chief trouble lies in the peptone, of which it is impossible to obtain in the open market satisfactory or uniform specimens. Whether obtained from meat or fish albumen, they "are prone to *rapid putrefaction* and yield iron combinations of most *offensive* odors."
>
> Of liquor ferri peptonati cum mangano, which is openly and frankly intended as a substitute for Pepto-Mangan (Gude), and on which substitute an immense amount of time and labor has been expended, the author has the following to say:
>
> "When made according to the present formula, with the materials obtainable on the market, the National Formulary preparation may be described thus:
>
> "A dark brown *sluggish* liquid, with a most *offensive* odor, not unlike a mixture of *ammonia* and *putrefied beef extract*. Taste *alkaline, saline* and *nauseating*. It deposits after a time a *dirty white sediment*, which soon covers the bottom of the vessel.
>
> "The finished product contains about .15% iron, .145% or less manganese, and .234% ammonium hydroxide, the latter serving the *sole purpose* of developing more *offensive* odors.
>
> "I have prepared four samples, in each case using different samples of peptonized iron, the finished products being almost identical.
>
> "The trouble with this preparation lies principally with the peptonized iron, and ammonium hydroxide, although there is room for improvement elsewhere.
>
> "Of six samples of peptonized iron examined, the products of the principal manufacturers of pharmaceutical chemicals, *all* showed that *putrefaction* was in progress. Of seven examined for iron content, only one showed over 5% Fe O (3.5% Fe), and this one sample has not yet been on the market under the name of peptonized iron or iron peptonate.
>
> "At the time this work was started but two samples of iron peptonate and none of the soluble manganese citrate were obtainable on the Chicago market.

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"After some time I succeeded in collecting some direct from the manufacturers, seven samples of peptonized iron and two of soluble manganese citrate.

"These two samples of soluble manganese citrate, although bearing the same title, are *entirely different substances.*

"(1) A light red-brown powder with a strong odor of acetamide and ammonia. It is a manganese-ammonium citrate containing about 18% manganese. Incompletely soluble in water, but solution is rendered clear by standing for some time with a slight excess of ammonia.

"(2) Pearl-colored scales (evidently made after the formula of F. B. Power, Proceedings A. Ph. A., 1902, 937). Contains 13.5% manganese. It is a manganese sodium citrate, freely water-soluble.

"In view of the above facts, it seems that a satisfactory preparation according to the present N. F. formula is impossible, *although* with a good sample of peptonized iron it could yield a *passable* one."

Now, gentlemen of the medical and pharmaceutical professions, please read the above carefully, very carefully. Here we have a preparation of great, thoroughly established, therapeutic value. That it is of great, thoroughly established, therapeutic value is seen from the fact that it is prescribed by physicians universally throughout the country. That it is prescribed universally is seen from the fact that every manufacturer, big or little, and every would-be pharmaceutical chemist, is racking his brains and spending his time and labor in his endeavor to prepare a successful substitute for Dr. Gude's Pepto-Mangan. And what is the result? What have we got? After hundreds and hundreds of attempts, after many years of labor, the leaders of pharmacy give us in the *third* edition of their book as a substitute for a well-known ferruginous tonic, a formula which yields in the hands of the best pharmacists a preparation of "a most *offensive* odor, *not unlike a mixture of ammonia and putrefied beef extract.* Taste *alkaline, saline, and nauseating,* and depositing after a time a *dirty white sediment!*"

Now, Professor Harrison is a capable teacher of pharmacy in one of the leading colleges of the country. He can have no earthly reason for misrepresenting facts. Indeed, considering the earnestness with which a certain class of druggists are insisting on the specification by physicians of the U. S. P. and N. F. imitations, it required some courage on the part of the Professor to give the facts as he found them, even though his purpose was to lead to improvement in the manufacture of these substitutes with the hope that such improvement would increase their use. His conclusions, therefore, coupled with those of Dr. Robinson, should give serious food for thought to physicians who, having obtained good results from certain preparations, are tempted, by the solicitations of their druggists or some pharmaceutical houses, to give up the employment of these remedies, and to use in their stead the imitation products. The duty of the physician is to his patients and to himself and not to the druggist or the pharmaceutical manufacturer, and a keen sense of this duty will not permit him to give up old and worthy remedies for those that have not been made by experienced and skillful hands, or whose therapeutic value have not been thoroughly tried. That every little druggist has the ability to compound all of the preparations in the U. S. P. and N. F. is such a

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monstrous absurdity that it is inconceivable that any physician of intelligence can be deceived by it.

"LIVE" VERSUS "DEAD" PATHOLOGY.

An idea has been instilled into the minds of the students of medicine for the past half a century that the study of pathological changes found at autopsy will give one a picture of disease which can be obtained in no other way. This principle was probably first expounded by the German school, which developed and encouraged the study of pathologic anatomy up to the highest point. The influence of this German school has been profound and wide-reaching. Virchow and Recklinghausen attracted men not only from Germany but from all parts of the world. They were instrumental in overthrowing the false notions of medicine that existed prior to their time, and a debt of gratitude is therefore due them for placing pathology in its broadest sense upon a scientific basis. Yet it must not be construed as heresy to say at this time that the blind following of their teachings has resulted in somewhat of a misconception as to what really constitutes pathology. It is true that the autopsy table has given us an insight into a knowledge of the gross lesions of many of the disease conditions which were but imperfectly understood prior to the days of Virchow. It is also true that the study of macroscopic and microscopic pathological changes found at autopsy, coupled with bacteriological investigations, has brought us out of the dizzy heights of rank speculation upon terra firma with respect to the establishment of the etiology of some of the so-called "cryptogenic" infections. Outside of this sort of knowledge of pathological anatomy, it can be stated that the true picture of disease can not be gained by investigations at the autopsy table.

A moment's reflection will be sufficient to convince one of the truth of this statement. Take, for example, a case of ulcer of the stomach or duodenum. Provided the patient does not die from an acute hemorrhage, and provided the diagnosis is not made, and proper surgical treatment instituted, gradual loss of weight ensues, resistance is broken down and the patient may become a victim of tuberculous infection, with ultimately a fatal issue. At autopsy of such a patient, the pathologist finds a beautiful picture of pulmonary tuberculosis, possibly, as is often the case, an associated ulcerative tuberculous enteritis. The ulcer of the stomach may be entirely passed over at autopsy, the main picture of tuberculosis predominating and determining the anatomical diagnosis. And the pathologist here thinks he has made a wonderful diagnosis in making out this terminal tuberculosis, which is nothing more or less than an afterclap, the real cause of the man's death, ulcer of the stomach, having been completely overlooked. In other words, as Oliver Wendell Holmes once

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said, the autopsy is "just like the day after the Fourth of July—after the fireworks are over."

The true picture of disease can only be obtained from a study of living disease, *i. e.,* from a survey of the disease in the living, quivering body, with the blood coursing through the vessels, the arteries and veins filled up, with organs distended by their blood contents and with the coloration of the tissues of the body in the full bloom of life. Such a study of living pathology will give one an exact idea of what disease really is. Such a study can be pursued at the surgeon's table and not at the autopsy table. Close scrutiny of the body when opened by the surgeon's knife is giving rise to a newer and more splendid pathology; a pathology of precision; a pathology out of the study of which must necessarily arise new methods of treatment and better results in therapeusis, both medicinal and operative.

THE MENACE OF A MEDICAL PRIESTCRAFT.

Religion and medicine have much in common. They are, indeed, the complements of each other. Both were born of mystery—the mystery of being and living, and they represent, respectively, the struggle of the human mind to solve the riddle of moral and physical evil. In the days of "revelation," before the advent of natural theology and natural science, men assumed that the secret of right living, moral and physical, was to be had ready-made from some supernatural oracle, and certain individuals were consecrated, or set apart, to establish and maintain communication with the oracle, and to reveal its dicta to the people.

It was but natural that in the performance of this appointed function the interpreter or priest of the oracle should acquire from his office a certain color of authority with the people, which enabled him to assume a constantly-increasing power over their thoughts and deeds and to control, to a great extent, the opinion and conduct of his times. It was equally characteristic of human nature when, in the mind-widening process of the suns, the rationalistic nature of these principles of conduct became apparent, so that anyone having access to the data which were at the disposal of the priests could readily formulate his own rules of life, that the priests, fearing the end of their long-enjoyed authority and power, should exert all of that authority and power in an effort to keep all such sources of information a closed book to the public.

For a long time they succeeded, in a large degree, in enforcing this interdiction of public inquiry and knowledge, printing all books of science and religion in Latin, and withholding them from the hands and eyes of all but the priesthood. But, of course, knowledge could not be thus engrossed and monopolized forever. The awakening came at last, and with

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it the office and power of the priest, as such, went by the board. Not only so, but so intense was the revulsion of sentiment that, in the eyes of all who are interested in natural science and natural religion, the whole system of priesthood, in which there are undoubtedly some excellent features, to this day remains under the ban of mistrust and repugnance, incurred by this one phase of its function, *for which not the great body of sacerdotary at large was responsible, but the powerful ring which controlled the system in those middle ages.*

Now history has a remarkable way of repeating itself and of presenting old friends and foes with new faces. It is not at all likely that scientific knowledge will ever again stand in danger of monopolization or suppression at the hands of the church or of any other body, on the pretext of special revelation. But it must be remembered that the real effect and essence of this sacerdotal principle—that which gave it its real power and influence—was the monopolization of the sources of knowledge by the few, which is always a dangerous thing. And while this may never again come about by virtue of the sacerdotal idea, there are modern conditions now obtaining which are not unlikely to bring to pass a similar dangerous state of affairs.

It is true that the public now has access to any kind and quantity of knowledge it desires. But the very quantity and quality of the knowledge thus at its disposal is forcing a specialization of its possession which, in its concentrating effect, bids fair to outspecialize the conditions of the middle ages. The people have, in a different fashion and by different methods, again delegated the office of medicine to a class of individuals consecrated thereto. There is a medical priesthood. True, it is a priesthood to which anyone may aspire, though there are indications of a spirit on the part of those in authority to consider subserviency to themselves as of more importance than special medical knowledge as a qualification for entering it; true, also, it is one over which the State has taken the precaution to keep some degree of oversight. Nevertheless, medicine *is* a priesthood, invested with vast powers and responsibilities in matters of life and death and health, of which the public knows, and can know, next to nothing, and concerning which it is obliged to depend upon the honor of those who have set themselves up as authorities on these subjects.

Human nature has not greatly changed since the middle ages, and medical scientists are but men. The temptation is now great, as it was then, to prostitute priesthood into *priestcraft,* for the mystification and exploitation of the public. This temptation does not attack the great multitude of earnest, faithful workers in the lower grades of the medical priesthood. It did not in the olden time, but only those who are in high places. And there are not wanting today signs that the *high priests of medicine are actually fastening upon the profession a system of priestcraft,*

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a sacerdotal ring, whose assumed authority is the more powerful because the basis of its legitimate dominion is rational and unassailable. The methods by which this priestcraft seeks to bring about a centralization of power are essentially the same as those by which priestcraft has always gone about to accomplish the same end, namely, the so-called ethical control of the opinions and utterances of its devotees, the suppression of the wholesome correctives of criticism and argument, *the establishment of a spurious authority in matters where authority has no legitimate place,* and the investment of medical science with a cloak of mystery and professionalism, with a view of compelling a false dignity and awe in the eyes of the lay public.

As already intimated, these tendencies do not belong to the great rank and file of the medical profession, *but to a small but powerful rule-or-ruin element in its high places.* Their influence, however, is widely felt and manifested in the alarmingly increasing loss of confidence exhibited by the public in medicine and medical men, as witness the growing reversions to Christian Science and the like; and when the ultimate revulsion against high-handed medicine comes (and the signs of the times are equally plain that it is not far distant), *the whole priesthood of medicine will, unfortunately, fall, as did the former sacerdotal system, under the ban brought upon it by this unscrupulous ring in its inordinate greed for central power.*

These matters are already being discussed by the laity, and are becoming invested with a public significance. We believe it to be in accord with the highest interests of the profession that the recognition of and provision for these unpleasant, but wholesome truths, should originate within its own ranks rather than to be forced upon it from the outside. They must be met and resolved by the rank and file of the profession, who are half unwittingly suffering and condoning the wrong; *who, together with the public, are being exploited by the unscrupulous ring, and who will eventually share in the revulsion of public mistrust and repugnance which will surely betide unless the mischievous tendencies of the ring be vigorously and effectively checked.*

CLINICAL NOTES.

THE VARIETIES OF DYSMENORRHOEA.

In an article on Dysmenorrhœa, Solomon Henry Secoy, M. D., of Jeffersonville, Ind., refers specially to its causes and treatment and offers some valuable suggestions as follows: "I am in the habit of regarding dysmenorrhœa as capable of division into three varieties. They are the neuralgic, the obstructive and the membranous. The neuralgic form is a pure neuralgia, and its subjects, in all cases, will give a history upon which we can base its cause. These patients will tell us that never, prior to the attacks which they have recently undergone, have they had dysmenorrhœa. It is caused generally by malaria and other influences which tend to lower the general health.

"The treatment of dysmenorrhœa very naturally comprises such remedies and procedures as will correct the cause, and the administration of anodynes to relieve the pain. In the neuralgic form we must correct the cause. If that be malaria, quinine must be given. In most

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cases where the neuralgic form is presented there is anemia, and no relief will be secured till this factor is overcome. Iron in some available form must, therefore, be given. During the period of menstruation the administration of antikamnia and codeine tablets in doses of two tablets every two hours, will relieve the pain. If these tablets are given at the beginning of the attack, we can often entirely prevent pain."

AMENORRHEA.

Whether from shock, exposure or other causes the menstrual flow is scanty or suppressed, the administration of Hayden's Viburnum Compound will invariably effect relief. Its action is to normalize pelvic circulation, and in anemic or debilitated subjects, its administration just preceding each monthly epoch will restore the reproductive system to its proper condition.

AN IDEAL NERVINE.

The well-known French nerve specialist (Dr. LeMord), writing recently of Daniel's Passiflora, says:

"I have at last found an ideal nervine, and I make this assertion, because I found after a six months' test, that its effects conform more nearly to nature than any other that has come under my observation. It is Daniel's Concentrated Tincture Passiflora, and is prepared from the Passion Plant which is indigenous to the southern section of the United States and grows there in great profusion. This plant is superlatively sedative in character, and the concentrated tincture that is extracted from the green fruit, leaves and vines, constitute in my opinion the most desirable nervine and narcotic at the practitioner's command. I find it most successful in the treatment of such diseases as hysteria, insomnia and neuralgia, as well as in those affections peculiar to the female sex. Its control of the nervous system is remarkable, but its greatest charm is that it produces no harmful after-effects, but induces normal slumber from which the patient awakes invigorated and refreshed. This property alone renders it indispensable, for the work of the physician is half done when his patient sleeps naturally. In my practice Daniel's Passiflora takes the place of opiates in the treatment of nervous diseases."

Such high commendation as this is most gratifying, but it is only an echo of similar expressions from a multitude of physicians on this side of the Atlantic.

BOOK NOTICES.

BORDERLAND STUDIES. — Miscellaneous Studies and Essays Pertaining to Medicine and the Medical Profession, and Their Relations to General Science and Thought. Volume II. By George M. Gould, M. D., formerly editor of *The Medical News, The Philadelphia Medical Journal, American Medicine;* Author of a Series of Medical Dictionaries, "Biographic Clinics," "Concerning Lafcadio Hearn," "Righthandedness," etc. Philadelphia: P. Blakiston's Son & Co., 1908.

This second volume of Borderland Studies, the first of which appeared in 1896, comprises a number of essays and original articles which were published in various periodicals of medicine, and have been gathered together by the writer in the present book form. Gould needs no introduction to the reading medical profession as an erudite, trenchant writer. No one can forget his terse and enlightening editorials in *American Medicine* and other medical journals which he has edited. He is deserving of a foremost place among the literati of medicine of the world. This book of essays will be found intensely entertaining by all. It will be found to be a verdant oasis among the dry and uninviting sands of medical writings that are commonly placed before us for reading.

REFERENCE AND DOSE BOOK.—By C. Henri Leonard, A. M., M. D., Emeritus Professor of Gynæcology in the Detroit College of Medicine. New and enlarged edition; fortieth thousand. Cloth, limp sides, round corners, thin paper, 16mo., 145 pages; price, 75 cents. The Illustrated Medical Journal Company, Publishers, Detroit, Mich.

The changes in the new edition of the U. S. Pharmacopœia are given in this edition of "Leonard's Dose Book" in two groupings, one showing those of "Increased Strength," the other of "Decreased Strength," and the new doses for these changes. All the Dose List has been carefully "proof-read" by several different readers, so as to insure absolute accuracy in the (nearly) 4,600 remedies given. The U. S. Dispensatory has been followed for medium and maximum dosage. The common name (in small type) is given after the drug name and dose. Besides this complete

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Dose List, the book has numerous useful Tables and a therapeutic index.

This new edition has been printed on thin paper so as to make it adaptable for buggy case or "bag," the whole being only one-fourth of an inch thick and weighing only about three ounces. Its round corners and smooth linen covers also make it "easy carrying" in the pocket. With this little book at hand you need never be at a loss for accurate dosage (new or old style) of a remedy.

ESSENTIALS OF REFRACTION.—By Thomas G. Atkinson, M. D., Author of "Applied Physiology;" Associate Professor of Neurology and Physiology, American College of Medicine and Surgery, Chicago; Professor of Physiology, Chicago College of Dental Surgery; Editor of the Medical Standard, etc. Chicago: G. P. Engelhard & Company. 1907. Price, $1.25.

The author of this little work intends it to be solely a treatise on refraction. It in no way attempts to go into the pathological conditions that are met with in the human eye, but simply takes up the study of optics, and shows how every practitioner can learn to detect errors in refraction. The underlying principles of optics upon which the superstructure of a refractionist's working knowledge must necessarily be raised are thoroughly and plainly set forth.

Exact directions are given as to the manner of using the ophthalmoscope and retinoscope, two instruments essentially necessary for this kind of scientific diagnostication.

The book should prove a useful manual for the student and the practitioner. Particular mention must be made of the chapter on hygiene of the eye, where the care of the eyes of children is gone into and some of the pernicious habits of the school-teacher in reference to improper strain to which he or she subjects the little pupils' eyes are properly and correctly reproved.

DISEASES OF INFANTS AND CHILDREN, A Manual of Diseases of Infants and Children.—By John Ruhrah, M. D., Clinical Professor of Diseases of Children, College of Physicians and Surgeons, Baltimore. Second revised edition. 12 mo., volume of 423 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company, 1908. Flexible leather, $2.00 net.

This manual of infants' and children's diseases, by Dr. Ruhrah, of Baltimore, will prove of exceptional value to medical students and to practitioners alike. It takes up in rational order the questions peculiar to the care and the treatment of the sick infants, beginning with an interesting and well-written chapter on "The Care of the New-Born," followed by another good chapter on "The Anatomic and Physiologic Peculiarities of Infancy and Childhood."

This work is intended, primarily, as a compend for the student of medicine in his study at college, when he finds it a physical impossibility to read all the "1,000-page" text-books that are recommended to him. The text of Ruhrah's book is characterized by brevity and clearness, without the sacrifice of the essentials, or with the sacrifice of as few of the essentials, as is possible in any work on any medical subject where essentials and detailed description count for so much. A specially good chapter is that on the "Therapeutics of Childhood." We heartily recommend this book.

GLIMPSES OF MEDICAL EUROPE. — By Ralph L. Thompson. M. D., Professor of Pathology, St. Louis University School of Medicine. Illustrated from Photographs and from Drawings by Tom Jones. Philadelphia and London. 1908: J. B. Lippincott & Company.

Many American medical men have spent a "Wanderjahr" on the Continent, and many there are who intend to do so at some future time. This little book will prove refreshing and delightful reading for those of us who have thus expatriated themselves for a while, and it will be intensely valuable by way of giving information to those who contemplate going abroad for study. Thompson has written a book which has genuine literary excellence, and at the same time should be an invaluable guide-book, as it were, for the aspiring medical tourist of Europe.

Paris, Berlin, London and Vienna are thoroughly described in Thompson's inimitable "American" way, many a hearty laugh escaping the reviewer on account of the serio-comic view of things which the author takes concerning European medicine and her votaries. This little work is, therefore, heartily recommended to those who have been there, to those who intend to go there, and to those who want to go but are prevented from doing so. A rich and instructive tale of interesting occurrences and facts can be promised by a

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The modern physician who realizes the importance of the careful choice of words in his contributions to medical literature, in his everyday practice, socially and in a business way; who knows that life may depend upon accurate language, and who aims to express his ideas with ideal clearness, both with tongue and pen, ordinarily as well as through his professional journals, should avail himself of this, the most ingenious help that has ever been devised to confer prompt and complete command of all the resources of our vast English language.

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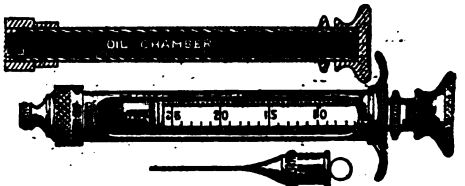

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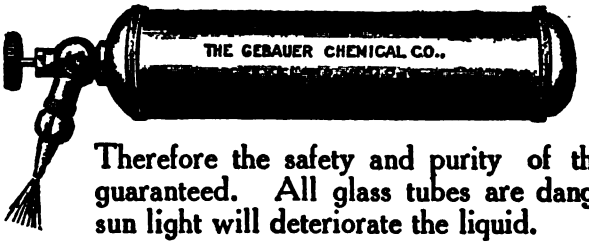

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., OCTOBER, 1908. No. 10.

METHODS OF DIAGNOSIS IN SURGICAL DISEASES OF THE KIDNEY, ACCOMPANIED BY PYURIA.

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[Written for the MEDICAL BRIEF.]

The presence of pus in the urine, no matter if it be found only in microscopical amounts so small, in fact, that it does not cloud the urine to any appreciable degree, is always pathognomonic of some pathological lesion at some point along the uro-genital tract. The amount of pus present is in direct proportion to the severity of the condition. It is pyuria which has the kidney for its origin, concerning which we will consider to its fullest extent.

It will, however, be necessary to describe briefly the conditions of the lower portion of the urinary system which are accompanied by suppuration, so as to be readily able to reach a positive and definite conclusion regarding the exact seat of the suppurative process.

The suppurative lesions of the kidney are not limited to ordinary suppurative nephritis consisting in suppuration of the organ, due to hematogenous infections, traumatism or to extension from contiguous organs, but to those infections as well rising from renal calculus, tuberculosis, tumor, extension from an ascending infection from the bladder, and inoculation with pyogenic bacteria hematogenously as that due to colon bacilli, etc.

The conditions which give rise to pus in the urine are many times overlooked by the general practitioner because there are no accompanying marked constitutional symptoms. This is particularly so in the early stages of surgical disease of the organ; if the patient complains of pain in or about the region of the kidney, or at another point of the uro-genital tract, the physician's attention may be called directly to the urinary apparatus, and he will then no doubt discover the fact that the patient has pus in his urine. Even pain in these conditions may be misleading, as many times the lesions in the kidney may be accompanied by frequent and painful micturition, so that the symptoms may point directly to the bladder, or as I have frequently seen, pain may be entirely located in the region of the healthy organ where one of the two kidneys is involved. Pain may be entirely located in the groin, or reflected in the male to the testes, and in the female down the inner side of the thigh. It is evident

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that one can not consider the symptom of pain as an important element in kidney conditions, for I have seen the pain of a kidney lesion located in the right side so simulate pain and symptoms of an acute appendicitis that the patient was operated upon and a normal appendix removed, and it was not until later that the lesion was discovered to be renal in origin.

Surgical diseases of the kidney which are accompanied by pyuria may be classified as follows:

(1) Pyelitis (a) catarrhal and (b) purulent.
(2) Pyonephrosis.
(3) Suppurative nephritis.
(4) Pyelonephritis.

There is no doubt that if the general practitioner would carry out in every case that he has under his care a systematic examination not only of the patient, but of the urine, there would be an early diagnosis made of these surgical conditions of the kidney, and if the diagnosis was made early the prognosis in these conditions would be very much more favorable.

It has been my practice for several years to endeavor to persuade all of my patients to consult me at least twice a year, even if they be in the best of health, for the purpose of a thorough and rigid physical examination, together with a careful urinary analysis. A great many of them have followed my advice, and in some cases I have been rewarded by being able to discover abnormalities when they were portraying no appreciable symptoms.

If the general practitioner would carry out this method of procedure with his patients he would many times be able to recognize and prevent conditions which if left alone would eventually produce grave and serious results.

I say to my patient, "You consult your dentist two or three times a year so as to keep your teeth in excellent shape; is it not more important to consult your physician to keep yourself in a healthy state and to prevent the development of any serious and complicated disease?" I have had very few refuse to acquiesce when the proposition was put up to them in this form.

If pus be found in the urine of an individual who does not complain of symptoms, it is left to the physician to diagnose the source and cause of the pyuria. A carefully elicited history must be obtained from the patient. The important element to be noted in the family history of the patient is the presence of cancer, tuberculosis, stone, gout or rheumatism. The previous history of the patient must be carefully gone into. The chief points to be considered are the occurrence of urethral infections, cystitis, etc., whether or not there have been renal colics, lumbar pains, chills, fever, disturbance of the digestive tract, headaches, loss of weight, frequency of or painful urination, whether there has been an occasion

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when the urine has been thick, highly colored or bloody, or there has been a deposit of gravel.

When the patient consults a physician complaining of some kidney lesion the symptoms may be well marked or only moderate in severity. The important symptoms of suppuration are pain, pus in the urine, and constitutional effects arising from the condition, such as sepsis or uremia.

Pyelitis is, as a rule, the result of an ascending infection of the lower urinary tract, particularly cystitis. There may be a history of a long-standing inflammation of the bladder, or an inflammation in the male in the prostate or urethra of a chronic type. The catarrhal variety of this condition is not productive of any well outlined class of symptoms, yet there may be slight pain in the lumbar region with a history of frequent micturition both by day and night. The urine may not show pus macroscopically, but under the microscope there will appear a few pus corpuscles. Catarrhal pyelitis may be a self-limited condition and may clear up with ordinary medical treatment, such as rest, diet, and internally urinary antiseptics, yet the condition may progress insidiously, developing a purulent condition of the pelvis, or even going still further and affecting the kidney proper. If the patient gives a history of frequent attacks of cystitis or urethritis, or both, which seem to fail to respond to ordinary treatment, or if they do there is a rapid recurrence, then a mild pyelitis may be suspected. If the condition is that of the purulent type, then the symptoms may be more marked. There will be frequency of urination, more or less fever, and considerable pain in the loin; there may be chills, fever and sweats, and the urine will contain quite a large amount of pus, so much that it will no doubt cloud the urine, and may be seen with the naked eye. If there is stone in the pelvis of the kidney, complicated with a pyelitis, then the symptoms may be even more marked, particularly the pain. There may be a true renal colic and other evidences of this condition found microscopically in the urine.

It has been claimed that a calculus in the pelvis of the kidney causes the pyelitis, but I firmly believe that the pyelitis is the forerunner of the calculus. It is true, however, that a pelvic stone will exaggerate the inflammation of the pelvis. In inflammation of the kidney pelvis, there is present pus and desquamation of the epithelium which will act as a nucleus for the formation of stone.

Pyonephrosis is particularly characterized not only by symptoms which have already been given under pyelitis, but by an intermittent and varying pyuria. There will also be an intermittent swelling in the loins which may be determined by a careful physical examination. This swelling depends entirely upon the fact that the obstruction at times becomes complete. This may be readily ascertained in thin individuals, but in those who are fat and have thick abdominal walls there is no evidence of tumor on palpation nor of pain on pressure.

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Pyelonephritis may be acute or chronic. In the acute type the onset is sudden with high fever, chills, pain in the region of the kidney. Fever may be continual, developing a typhoid state, followed by coma, and terminating in death; or it may gradually subside and the condition merge into the chronic type. The patient may develop in the acute stage all those peculiar symptoms which accompany the condition known as uremia, and the diagnostician is very apt to be misled.

Pyelonephritis may develop from an extension of the inflammation from the pelvis, it may be mild in character without the formation of abscess and may develop into a true nephritis. In chronic pyelonephritis the patient complains of gastric and intestinal symptoms, as vomiting, diarrhea, or constipation. There will probably be loss of weight and strength, and an occasional febrile movement, as shown by fever, chills, and sweat. If there is good drainage and not much absorption of pus, the patient will not show many marked and characteristic symptoms.

In cases of pyelonephritis which may have for their origin a stone, tuberculosis or tumor, hematuria will be a more prominent sign than pyuria. Other signs in the urine will render a diagnosis of stone formation certain. In tuberculosis there will be evidences of tuberculosis in other organs, as in the prostate, epididymis, glands, lungs, joints, etc., and tubercle bacilli can be found in the urine.

In malignant growths there will be marked cachexia, loss of flesh; the condition will be evident in patients usually beyond the age of fifty, and there will be other elements discovered during the urinary analysis which will enable the diagnostician to discover the malignant growth to be the cause of the condition. If, however, it be discovered that the individual has a pyuria, then the cause and source of the pus must be ascertained from the examination of the patient, which must consist of a physical examination, a chemical and microscopical examination of the urine, a cystoscopy of the bladder, not only of the mucosa itself, but of the ureteral orifices, the character and appearance of the urine as it comes from the ureteral orifice, together with the character of the efflux. Ureteral catheterization must be resorted to and a collection of a specimen from either kidney, for the purpose of analysis; at the same time the functional activity of those organs may be ascertained. If a stone is suspected then a radiography must be resorted to.

The physical examination in these suspected kidney cases should be as follows: Inspection, palpation, percussion, rectal and urethral examination and vaginal examination in the female. It would be well to take the temperature and pulse to ascertain whether or not the condition is of the acute type.

Inspection will show the presence or absence of edema of the eyelids, hands or feet, indicating, if present, that the circulation is being impaired.

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Cachexia points either to Bright's disease or to the presence of a malignant growth.

Septic appearance indicates that the individual is absorbing a large amount of pus. Inspection of the lumbar region will show in cases of tumor or pyonephrosis a bulging and swelling in the loins. The most favorable means we have for a direct examination of the kidney is palpation. This method gives us important information as to its size, shape, position, whether there is tenderness upon pressure and whether it is adherent or not to the surrounding organs.

Palpation should be performed bimanually. First put the patient in semi-reclining position with the thighs flexed on the abdomen so as to overcome rigidity of the abdominal muscles. The patient is directed to breathe deeply, and during the period of expiration when the abdominal muscles are more relaxed the hand which is on the abdomen over the kidney region is pushed firmly towards the posterior abdominal wall and the hand which is behind makes a deep pressure, so that the fingers of the two hands may come as near to each other as possible and the kidney may be felt between the two. If the kidney is tender on pressure it will be discovered at this time. If there be a tumor, abscess or pyonephrosis, the enlarged mass may be readily felt between the hands.

The patient should be carefully placed upon his feet and an examination made bimanually as before. This will elicit the fact whether or not the kidney is movable and to what degree.

I believe that if the kidney can not be outlined even in the thin individual that it is normal, but too much dependence must not be placed upon this fact, for in the large individual with thick and fat abdominal walls it may not be possible to palpate the organ, although it be markedly enlarged and diseased.

Percussion is not as important as palpation, yet percussion may elicit the fact that a tumor is of renal origin, and not due to a new growth in the peritoneal cavity. A rectal examination must be made in the male to ascertain the condition of the prostate and seminal vesicles. If the patient is an elderly individual and there is an enlargement of the prostate, it would be well to pass a soft rubber catheter into the bladder to ascertain the fact of residual urine and its quantity. If the prostate in a young individual is enlarged and tender, with pus in the urine, together with febrile symptoms of a septic nature, then the diagnosis may be made of an acute prostatitis associated possibly with cystitis, even though the pain may be located in the lumbar region, as may be frequently found to be the case, and other methods will have to be resorted to to enable the diagnostician to reach a definite conclusion as to whether or not the kidneys are involved.

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Examination of the urethra will give us the exact data as to the condition of that canal, whether there be evidences of stricture or of prostatic obstruction which may give rise to inflammation of the bladder and inflammation of the kidney pelvis or renal tissue, due to an ascension of the infection along the ureter.

Most general practitioners are too busy to examine thoroughly a sample of urine, or they have not the necessary laboratory apparatus. If this is the case they should call in the assistance of an expert urologist who makes urinary analysis a specialty. If, however, they have the time and the necessary apparatus, they may follow out these details themselves.

There are a few rough tests which will give a fair idea as to the source of the pus. It must not be forgotten that pus may come from any portion of the urinary tract from the external urinary meatus to the cortex of the kidney. If pus is seen exuding from the meatus, it may be proceeding from the anterior urethra. The patient is requested to pass his urine in two glasses, and if the first sample contains pus and shreds and the second is clear, it is evident that there is a purulent discharge from the urethra.

If the first and second urines are both cloudy, it may be that the posterior urethra is so involved that the pus runs into the bladder, or more probably there is an involvement of the urinary tract above the cut-off muscle.

If in the two-glass tests both specimens are intimately mixed with pus there is no doubt that the lesion exists either in the bladder or at some point higher up.

Normal urine is almost perfectly clear, but there are several ingredients which in excess produce cloudiness of the urine, tests for which I will briefly detail. If a specimen of urine freshly passed stands a few moments and becomes cool there appears a faint cloud which slowly settles to the bottom of the glass. This cloud is mucous and in ordinary amounts is normal. It is much more pronounced in women than in men, due to the admixture of vaginal mucous, which is washed away from the external genitals when the urine is passed.

In inflammatory conditions the mucous is markedly increased, due to the admixture of epithelia and pus. As a rule the mucous may be distinguished from pus in the urine by the following characteristics: It floats longer and is less opaque and less dense than pus. However, a rough test for mucin, which is the proteid substance contained in the mucous cloud, consists in diluting a sample of urine with an equal amount of water and then adding, drop by drop, acetic acid until a precipitate is formed which is soluble in an excess of acetic acid. If, however, the urine contains albumen this should first be eliminated by the heat test, then the acetic-acid-mucin test would follow.

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Turbidity of the urine may be due to an excess of the earthy or triple phosphatic salts. This usually follows when the acidity of the urine is lowered, thus lowering the solubility of the phosphatic elements. This form of turbidity is easily recognized, as the cloudiness in the specimen is intimately mixed throughout the entire specimen and a cloud settles on standing. The addition of a few drops of acetic acid will immediately clear up the urine by overcoming the lowered acidity of the specimen.

If the cloudiness of the urine is due to pus, blood or cellular elements, the addition of acid will increase the turbidity. The presence of a large number of bacteria in the urine will cause a turbidity which will not clear up by the addition of acid.

When urates are present in the urine in excess, they form a precipitate which causes a turbidity of the urine which may be mistaken for pus. Such elements are always acid in reaction, and it is well to remember that a sediment in acid urine can only be composed of urates unless it is due to the presence of pus or blood. Heat will immediately clear up the turbidity due to urates, but will increase the turbidity if due to pus.

There is a rare condition caused by the presence of the Filaria Sanguinis Hominis, which is characterized by the urine being practically an emulsion of fat in which oil globules remain in suspension in the urine, producing a milky appearance, which is known as chyluria. If this urine be allowed to stand, it will show a film of fat upon the surface. If the specimen be shaken with ether the fat is dissolved, and the urine becomes normal in appearance.

Pus in the urine is characterized by cloudiness of the sample immediately after passing, and on standing a short time it is deposited in the shape of an opaque amorphous yellowish white sediment, sinking to the bottom of the glass much more rapidly than mucous.

Pus deposit in alkaline or ammoniacal urine usually settles as a tenacious, gelatinous looking mass, which adheres to the bottom and sides of the glass.

A rough chemical test for pus which will often aid the general practitioner to distinguish it from the other cloudiness in the urine, consists in allowing the sediment to settle to the bottom of the glass, decanting the overlying urine and adding an ordinary solution of caustic potash, drop by drop, until the gelatinous, glary mass appears which adheres to the bottom and sides of the vessel and can be poured out from it in a lump.

These chemical tests may be discarded if a thorough microscopical examination be contemplated. Of course, it is wise to take the specific test for albumen and sugar before performing the microscopical examination. If the examination is urgent, then the specimen of urine may be centrifuged; yet it is better to allow the specimen to set for twenty-four hours, thus accumulating a sediment, examination of which will inform

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us concerning the amount of pus, blood, epithelia and casts which may be present. Centrifuging, although necessary where a rapid examination is required, will disintegrate the elements to such an extent that their full significance might be overlooked. If pus is noted, then it is evident that we have to deal with a pyuria.

The presence of epithelia in the urine, together with pus corpuscles, is indicative of an inflammatory process going on somewhere along the uro-genital tract. The general characteristics of the epithelia will give an accurate knowledge to the localization of the pathological lesion.

It is possible to absolutely differentiate the epithelial cells derived from the various points of the uro-genital tract. The uro-genital tract is lined with epithelium which in the urine will show characteristics which are constant and sufficiently well marked to enable one who is skilled in the microscopical examination of urinary sediment to distinguish the portion of the tract from which the desquamation takes place.

The epithelial cells bear a constant relation in size to the pus corpuscles present. The pus corpuscle is the smallest granular cell found in the urine and the source of the epithelial cells may be ascertained by comparison of their size with the pus corpuscle.

The smallest epithelia found in the urine are about one-third larger than the pus corpuscle and are derived from the convoluted tubules of the kidney. The next larger epithelia, always about twice the diameter of the pus corpuscle, are derived either from the ureters or prostate gland. The epithelia from these two portions are so similar that it is difficult to differentiate between them without other elements.

Epithelia from the pelvis of the kidney are most irregular, smaller than those from the bladder and larger than those from the ureters. These latter, the ureter cells, are almost always present with those from the pelvis. The majority of the pelvic epithelia are caudate, pear-shaped or lenticular, but they are sometimes found quite irregular. When pus is present in the urine, together with typical epithelia from the pelvis in considerable numbers, we have to deal with purulent pyelitis, whether it be due to stone, tuberculosis, or tumor, a more complete examination must be made. If there is present also epithelia from the bladder we have to deal with cystitis as well as pyelitis. If there are present, together with epithelia and pus, fat globules either free or contained within the cells, the condition is one of chronicity. If there be a large number of pus cells with a moderately large number of epithelial cells from the renal convoluted tubules or from the straight collecting tubules, we have to deal with a suppurative nephritis, particularly if there are present granular, epithelia, pus or blood casts.

If there be present with these features many cells from the renal pelvis we have a pyelonephritis.

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As has been already stated above, the number of pus cells is directly proportionate to the severity of the condition, and it is the same with the epithelial elements. If there are only found a few of these pathological elements in the specimen of the urine then the condition is not one of suppuration, but one of mild inflammation.

Casts in the urine are very significant—their presence speaks for an involvement of the kidney either of an inflammatory type or in a suppurative process. However, the absence of casts does not signify the absence of an inflammatory process in the kidney. In the acute types of kidney lesions we find hyaline, epithelia and blood casts, while granular, both coarse and fine, fatty and waxy casts, are indicative of chronic inflammation. When the casts are studded with pus corpuscles, so-called pus casts, renal suppuration may be diagnosticated to a reasonable degree of certainty. Blood globules are frequently found in cases of pyuria and the location of the hematuria is ascertained in the same way as the location of pus by the localization of the epithelia present. The presence of a large number of blood cells is indicative of the presence of an acute process, or of an acute exacerbation of a chronic process.

If there are found connective tissue shreds, together with epithelia, pus and blood, there is evidently a destructive process going on. Microscopical examination should not only be made upon the urine passed from the bladder, but from the urine collected by means of ureteral catheterization from the separate kidneys.

Having satisfied ourselves that the suppurative process is located in the kidney, then the exact etiological factors may be taken into consideration. The pus should be thoroughly examined for tubercle bacilli to determine if tuberculosis is present. If stone is suspected as the cause we may get a crystalline excess in the urine.

In malignant growth portions of tumor have been found and have led to a correct diagnosis. Having located the seat of the trouble and its cause it now remains to be determined which kidney is affected and to find out the condition of the other if it is present. So we come now to cystoscopy and ureteral catheterization. With the aid of the cystoscope we are able to discard the condition of pyuria as arising from the bladder. We are able by the examination of the ureteral orifice to tell accurately whether the efflux of urine is normal or whether it is decreased or whether absent. The characteristic appearance of the ureteral orifice is exceedingly important from a diagnostic standpoint.

Newman has outlined the diagnostic value of the appearance of the ureteral orifice in the disease of the kidney in such a typical manner that I will give his classification:

(1) When one orifice is altered, and the other normal, the renal lesion is on the side of the abnormal ureter, and the character of the deformity of the orifice may indicate the nature of the renal lesion.

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(2) Active congestion and swelling of the mucous membrane in the neighborhood of the orifice, and along the line of the ureter, also swelling and pouting of the lips, denote acute irritation of the pelvis or parenchyma of the corresponding kidney.

(3) A dilated orifice, the lips acutely congested, while the color of the bladder is little changed, denotes recent and acute inflammation or mechanical irritation in the corresponding pelvis.

(4) A dilated orifice, the lips being thickened and only slightly rounded, the mucous membrane between the lips of a dark red color, while the mucous membrane of the bladder is deeply injected and pigmented, especially along the line of the ureter, denotes descending ureteritis with dilatation.

(5) An elongated or dilated mouth, with hyperemia of the lips, indicate acute inflammation of the parenchyma or recent distention of the renal pelvis.

(6) A punched-out orifice, marked by thickening of the lips, and induration and congestion of the surrounding mucous membrane, indicates a dilated ureter with ascending ureteritis, the infective process extending from the bladder by continuity.

(7) A pin-head opening on a well-defined ridge of deeply pigmented mucous membrane, indicates induration of the walls of the ureter from the ureteritis; the infective material being conveyed from the primary focus in the kidney or bladder, principally through the lymphatic glands and channels.

(8) Pin-head contraction of the mouth of the orifice, without other vesicle changes, denotes spasm induced by pressure of a rough calculus impacted in an irritated ureter.

(9) Inflammation of the mouth, and thickening of the lips, with inflammatory changes limited to the mucous membrane immediately sursounding the ureteral orifice, denotes mechanical irritation of long standing.

(10) Simple dilatation of the mouth, without much thickening of the lips, and with congestion limited to the orifice and neighboring parts, suggest mechanical irritation of recent origin.

I do not believe that the cystoscopic picture of the ureteral orifice will give us absolutely accurate knowledge as to the condition of the kidney, for I have seen grave kidney lesions in which the ureteral orifice was absolutely normal, yet it will aid materially in reaching a definite conclusion.

The ureteral catheter holds an exceedingly important place in renal diagnosis, for by its aid we are able to ascertain whether or not there are two kidneys present, whether or not there are lesions of the ureters,

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whether or not both kidneys are diseased, and to what degree the pathological lesion is present. We are also able by their use to ascertain as accurately as possible the functional activity of the organs.

Catheters will give us samples of urine collected from the two kidneys, and it must be left to the microscope for a complete diagnosis. Before any operative procedure is contemplated upon one kidney, the functional activity of its mate must be ascertained; this may be done at the time of the catheterization of the ureters.

My method is as follows: A phloridzin test is carried out by injecting .01 gram of phloridzin subcutaneously. It has been proven that phloridzin will produce sugar in the urine, and the time of the appearance of the sugar after the injection is the basis of the functional activity of the organs. Sugar should appear in the urine in a normal kidney in from ten to fifteen minutes after the injection. A delay of thirty minutes speaks for the essential functional disturbance of the kidney, and if delayed forty-five minutes a nephrectomy is contraindicated. The methylene blue test may also be resorted to, the value of which depends upon the following points: Time of the beginning of the elimination, and duration of the elimination, and the quantity of coloring matter eliminated.

It is claimed that in diseased kidneys elimination does not begin until several years after the injection, or in some cases it does not appear at all. The delay in the appearance is entirely proportionate to the pathological lesion appearing in the kidney.

The urea test for each kidney is important as to the functional activity of these organs, and should be carefully carried out upon the catheterized specimens and computed approximately for the twenty-four-hour specimen. These tests combined with the accurate microscopical findings of the separate specimens will give us sufficient evidence on which to base our opinion of the functional activity of the organs, and whether or not a nephrectomy may be performed without increasing the risk of a fatal termination.

Only a brief word need to be said concerning radiography, for by its aid nephrolithiasis may be accurately diagnosed, and should only be used when stone is suspected, as it is of no particular benefit in the diagnosis of the other conditions of the kidneys accompanied by pyuria.

I have endeavored in this article to outline clearly definite methods employed in diagnosis of these renal conditions. I might say that completeness of the examination will render it easy to diagnose these renal cases. In my course of instruction which I have outlined for my private students, a large number of which it has been my pleasure to teach during the last few years, begins with the methods of thorough history-taking, which is very important; then he is instructed in the methods of examination, including instrumental and physical. He is taught the technique and use of the endoscope and cystoscope. He is instructed in ureteral

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catheterization and afterwards given a thorough course in microscopy of the urinary sediment, as I consider this particular portion of my course very important, and I impress upon his mind the importance of completeness in the examination of these cases, for if any one feature be overlooked it may mean an inaccurate diagnosis and a serious termination for the patient.

In conclusion, I will summarize my remarks by saying that in a case of pyuria the source and nature of the lesion should be determined by all of the methods which I have outlined, namely:

First. A general and physical examination.

Second. Examination of the urine chemically, microscopically, and in relation to the functional activity.

Third. Cystoscopy.

Fourth. Ureteral catheterization.

Fifth. Radiography.

Urinary analysis is of vast importance, and it should not be forgotten that by a careful study of the epithelial elements, together with pus, blood, and casts, it is easy to determine the nature and extent of the lesions, as well as the source. It has been shown that ureteral catheterization will exactly locate the lesion in one or both kidneys, and will determine if one is diseased and whether the opposite organ is present and healthy.

Ureteral catheterization is also important in studying the functional activity of the kidneys. Even if a diagnostician has followed carefully the methods here outlined and has reached a definite conclusion as to the source and cause of the pathological lesion of the kidney, he should never recommend a radical operation until he has thoroughly convinced himself of the power of the healthy kidney to carry on its normal functional process. If he overlooks this fact, he will find that many of his cases will have a fatal ending, due to complete suppression of urine.

72 Madison Street.

THE WRONG BOTTLE.

One of the visiting doctors at the Avignon Hospital prescribed for Mme. Ajour, a patient, who had just undergone an operation, a dose of eau de vie allemande, in syrup. The hospital pharmacist being absent at the time, one of the Sisters of Charity on duty went to the pharmacy for the preparation and handed it to the nurse, who administered a dose to the patient. Mme. Ajour died in a few hours in great pain. An analysis of the medicine indicates that the preparation contained strychnine.—*The Chemist and Druggist,* June, 1908.

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THE DIAGNOSIS OF EVERYDAY HEADACHES.

By Alfred de Roulet, B. S., M. D.,

Associate Professer of Diseases of Women in the Reliance Medical College, and Instructor in Diseases of Women in the Chicago College of Medicine and Surgery (Medical Department of Valpariso University, Chicago).

[Written for the Medical Brief.]

While headache is probably one of the commonest complaints which the physician is called upon to treat, there are symptoms the determination of the exact significance of which demands a wider range of positive information or taxes to a greater extent the diagnostic acumen of the physician. The condition is so frequently encountered that a patient with a headache excites little interest and less sympathy, and, after a few perfunctory questions, is given a prescription for a few "headache powders" and dismissed. Such treatment may give relief, but it does not cure the headache.

To treat a headache successfully it is necessary to go beyond the aching head to find the underlying cause or causes. In the first place, the ordinary headache, as a rule, may be considered as a distinctly feminine disorder; men being remarkably free from this particular affection. When a man does have a severe headache it may be due to eye-strain, but more often it may be traced to over-indulgence in the pleasures of the table and bottle. Persistent headaches in middle-aged men are often forerunners of grave kidney disorders. The nervous headache so common in women is conspicuous by its rarity in men.

The common, everyday headache may be conveniently divided into five groups, as follows:

(*a*) *Anemic,* due to anemia, chlorosis, hemorrhage, malnutrition, etc.

(*b*) *Toxic,* due to ptomain or leucomain poisoning, fevers, nephritis, constipation, intestinal disorders, and the various intoxications.

(*c*) *Reflex,* from the eye, ear, naso-pharynx, or the digestive or sexual organs.

(*d*) *Neurasthenic,* due to the nervous exhaustions so common in the women of today.

(*e*) *Migraine.*

In the study of any particular case of headache, the first points to determine are the frequency of recurrence, the duration and the intensity of the pain, and, incidentally, the relation of the headache to menstruation.

It is well to bear in mind that headache may be an early symptom of typhoid fever, of malaria, and, in young women, of scarlet fever. In older patients a severe, long-continued headache, especially if accompanied by a decided increase of arterial tension, is characteristic of Bright's disease, while a severe nocturnal headache suggests luetic infection.

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After excluding the possible unusual causes, the physician should carefully and minutely investigate such factors as are commonly operative in women.

The anemic type of headache is frequently observed in young women and girls, and is characteristic of anemia and chlorosis, and may be associated with severe hemorrhages, with chronic diarrheas, malnutrition, etc. The headaches of school girls, and to a great extent of young working girls, may be due to anemia, though more often they are due to eye-strain.

The anemic headache is characterized by a deep-seated feeling of soreness, or of painful pressure, usually felt in the forehead and supraorbital region, or in the vertex, and may be associated with a variable degree of occipital pain. When the patient is lying down or resting quietly, the pain is less marked, while rising may cause a severe vertigo in addition to aggravating the other symptoms. The patient is very sensitive to noise or bright lights. The pulse is usually feeble, while weakness of the legs, slight swelling of the ankles and more or less drooping of the eyelids are occasionally noticed.

Toxic headaches may be roughly divided into two classes, those due to poisons taken into the body from without, and those developed in the system as the result of morbid conditions. Of the headaches due to poisons taken into the body from without, probably the most common is that due to breathing impure air. The symptoms are not severe, usually consisting of more or less dull aching, slight mental confusion; possibly vertigo. Headaches due to the use of alcohol are by no means uncommon, and headaches due to over-indulgence in tobacco are becoming comparatively frequent.

Headaches due to toxines developed in the body are numerous, and of these the commonest is that of constipation. This headache is of a throbbing character, affects most often the frontal and occipital regions, and is aggravated by any sudden movement of the head. This headache is accompanied by a coated tongue and foul breath, and disappears promptly after thorough purgation. The same may be said of auto-intoxication from fermentation of food in the gastro-intestinal tract.

In nephritis the headache may be mild or severe, depending upon the amount of poison circulating in the blood. With this headache there is mental depression, a peculiar restlessness, vertigo, and often insomnia. Spots and sparks are often seen before the eyes, and in severe cases there may be delirium. A vague sense of fear or foreboding is very characteristic.

Headache is characteristic also of all the acute fevers, and is often one of the first symptoms noticed, but, except in the case of typhoid and meningitis, there is little to distinguish them one from the other. In typhoid the pain is most pronounced in the frontal and temporal regions, and usually disappears during the second week, while the headache of

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meningitis is distinctly occipital in type, and is inclined to change more or less during the course of the disease. It may remit from time to time only to return with greater severity.

In reflex headache the pain is usually localized within more or less sharply defined boundaries, and may occur as a sensation of fullness or of constriction about the forehead, or it may be a sharp lancinating pain. In a person of a markedly neurotic temperament a very slight peripheral irritation may be sufficient to cause a very severe headache. The common clinical causes are eye-strain, naso-pharyngeal, gastro-intestinal and pelvic disorders. Of these, eye-strain is by far the most important.

In headaches due to eye-strain the pain is generally limited to the temporal and supraorbital regions, and the parts within the orbit. A very large proportion are due to refractive errors; most frequently astigmatism, and it is the very slight degrees of astigmatism and hypermetropia which cause the most trouble. That is, a slight error can be corrected by the overworked ciliary muscle, at the cost of a headache. A more marked error could not be corrected in this manner, consequently the patient must either have recourse to glasses or give up fine work. These ocular headaches are most frequently encountered in patients whose occupation requires prolonged close attention to fine work, with either poor or artificial light.

A variety of ocular headache, the so-called panorama headache, frequently follows a shopping trip, a visit to a crowded museum, a theater or a moving-picture exhibition. The excitement, the rapidly-changing points or items of interest, the constant shifting of the gaze, the multitude of lights, etc., combined with more or less defective ventilation, is sufficient to send the paatient home with a severe splitting headache.

Excessive use of the eyes by artificial light at night will often cause a severe headache which, strange as it may seem, does not appear until next morning.

Nasal headaches are usually due to the involvement of one or more of the accessory sinuses. When the frontal sinus is at fault, the pain is more or less localized over the region of the sinus. The pain is throbbing and aching, but, in some instances, may be sharply neuralgic in character. Where there is pus confined in the sinus the pain is intense, constant and throbbing. It is aggravated by stooping forward, coughing, sneezing, or blowing the nose.

In headaches due to pelvic disturbances, the pain is commonly localized in the vertex or in the occipital regions, and may manifest itself as a sharp, tearing or lancinating pain, or as a dull feeling of weight or pressure. The premenstrual headaches usually disappear as soon as the flow is well established, while the menstrual headaches disappear when the flow has reached the maximum. A rather characteristic headache appears

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during the last twenty-four hours of the menstrual period, and lasts until the flow has entirely ceased.

In neurasthenic headaches the onset is marked by a feeling of general discomfort and irritability. Visual disturbances are frequent. The sight may be more or less obscured, while dark spots or bright sparks float before the eyes. Nausea is often present. The pain is more or less localized in some particular area, the area often being that of a geometrical figure, as a square, circle, triangle or line. This peculiar localization is of considerable diagnostic significance. According to Patrick, "geometrical paraesthesias mean neurasthenia, or something allied to it."

A peculiarity of the pain of a neurasthenic headache is that it is not an actual pain at all, but rather an indefinable sense of discomfort or distress. The patient, in attempting to describe her headache, will complain of a feeling of fullness "as if the head were about to burst," or of heaviness or of lightness, or of emptiness, or of a pressure as of a band drawn tightly around the forehead. Symptoms suggesting eye-strain are sometimes present. The eyes ache, there is pain and tenderness about the orbits, and the pain is aggravated by using the eyes, but it is not relieved by the use of glasses. Again, the patient will complain of a dull, deep-seated, unpleasant sensation which she is unable to describe. One patient has complained that her head "felt as if there was something loose inside trying to get out," while another had "an intense itching at the base of the brain." In some instances the patient complains that when she has headaches she can not think clearly; that her mind seems enveloped in a veil or cloud, and that her mental processes are hopelessly confused.

A striking characteristic of the neurasthenic headache is that no matter how severe may be the attack, it does not interfere with the patient's rest. Of course, a neurasthenic may have insomnia the same as any one else, and neurasthenia confers no immunity to other varieties of headache, but the purely neurasthenic headache does not of itself prevent sleep. Another noticeable feature in connection with some of these headaches is their long duration. In some patients the condition continues almost indefinitely, and practically without intermission. Again, quoting Patrick, "the patient who is never free from headache; who has had a headache for weeks at a time, is pretty sure to be suffering from neurasthenia, or from some grave organic disease."

A rather common form of nervous headache is that found in women whose domestic affairs are not as pleasant as they might be, the depressing influence of an unhappy home being a potent factor in the development of many nervous ills. It may be that the patient suffers actual cruelty; it may be indifference, or merely insufficiently advertised affection. It is not impossible that the trouble lies in the patient herself, in giving way to outbreaks of bad temper, or to prolonged periods of brooding over imaginary wrongs, the surest way to exhaust a deficient nerve capital. During the

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attack the patient is unable to leave her bed, can not bear light or noise, complains bitterly of the throbbing pain; but her interest aroused or her attention caught, she will momentarily forget her sufferings. These patients seem to enjoy a very pleasant immunity to these headaches when any pleasant company is expected or when the domestic situation clears up.

In migraine, or sick headache, the essential feature is a paroxysmal headache, which ordinarily makes its first appearance between the fourteenth and the twentieth years, and continues, in women, until after the menopause. In a large percentage of cases the trouble is inherited, usually from the mother. At first the attacks are widely separated, but as time passes they tend to become more and more frequent, until, in severe cases, there may be one or two attacks in a single week. The paroxysm differs widely in different individuals. In a few cases there are no special prodromal symptoms, but, ordinarily, several hours before the onset of the attack the patient begins to feel very tired and uncomfortable. A feeling of chilliness is not uncommon. Visual disturbances, the most common of which is a sensation of a blinding light, as well as disorders of taste and smell, are occasionally present. Some patients complain of great restlessness and excitement, or of extreme mental depression.

The headache itself is generally situated on one side of the head, and may be localized in the temporal, frontal or supraorbital region. At first the pain may be somewhat throbbing, but soon settles down to a continuous, steady, severe pain, which is deep-seated rather than superficial, and which is so severe as to absolutely prevent sleep.

As the pain reaches its height, nausea develops, and may be followed by violent vomiting and retching, in which first the stomach contents and then bile are ejected. After the vomiting, the pain gradually lessens, and in from six to thirty-six hours entirely disappears, leaving the patient completely exhausted. In women these headaches show a decided tendency to recur at the menstrual period, either before, during, or immediately after menstruation, but this does not mean that menstruation has any direct connection with the cause of the migraine. Any influence which tends to lessen the patient's nervous resistance, be it worry, menstruation or overwork, may be sufficient to precipitate an attack in a migrainous subject.

An interesting point in connection with migraine is the well-marked individuality of the attack in different subjects. A woman with migraine is thoroughly acquainted with the peculiarities of "her headache," and should she at any time suffer from a headache from a different cause or of a different type, she promptly recognizes the difference.

1013 Venetian Building.

Doctors Raikes and Wray, in the employ of the Singapore Government, have died from plague contracted while holding a post-mortem on a patient who died in quarantine.—*Indian Public Health,* July, 1908.

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RAPED BY GHOSTS.

By J. A. Houser, M. D., Indianapolis, Ind.,

Author of "Race Suicide," "Spirit of Life," "Knocking at the Gates of Hell," etc., etc.

[Written for the Medical Brief.]

Some years ago I was consulted by a woman whose case was so much out of the ordinary, in a psycho-pathological sense, that I am inclined to think a report of it might be interesting to the profession. Not that such cases are likely often to present themselves for treatment, however.

The patient was a married woman of forty-two, weighing one hundred and fifty-eight pounds; was of fine physique, and apparently in perfect health. She was the wife of a wealthy man, and was a woman of culture, education and leisure; a very religious woman; church member and a spiritualist. In the church and spiritualist circles she was an active worker.

Her complaint was of being raped by spirits. These celestial villains began their assaults upon her in her sleep, usually in the after part of the night, repeating the attacks as often as she went to sleep. Each attack would awaken her, as the pain was very great, caused by the great development of the spiritual genital organs. Two of the spirit visitors would always hold the unfortunate victim while the third accomplished the diabolical act. After some weeks the spirit tormentors became more emboldened, and attacked their victim during the day, and, finally, upon very frequent occasions, at home, in the street, and in company. During these horrifying ordeals my patient would cry out with pain, struggle, and occasionally become unconscious.

The cause of the trouble she revealed to her husband, and to a very few of her intimate spiritualist friends. These disgusting vagabonds of the skies would appear to her senses as plainly as any real flesh-and-blood creature could appear. She would see them, talk with them, hear every word of both persuasion and execration. They would try to reason with her, and, in turn, curse her. They were clad in drapery. All large, strong, powerful-looking beings, with long hair and whiskers. Their object was that she should be a creature of their amours, and incidentally become the mother of their offspring. Later, she claimed, she discovered that the two who held her were non-sexed, or eunuchs, and the servants or slaves of the male.

She told me she had been treated by several physicians, one of whom I knew personally, a very learned member of the profession, who pronounced her insane, which allegation she most vigorously repelled.

She had also consulted clairvoyants, faith healers, Christian Scientists, and prayed for relief with christian women, but to no avail. She had gone from city to city, including New York, Washington and Boston, to see all kinds of healers; but she told me frankly they all tried to deceive her by some conjuring, to demonstrate that she was correct in her spirit-

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ualistic ideas, and asked exorbitant fees for their services in controlling the demons. I told her I could relieve her of the trouble by putting her in such condition physically and psychically that the spirits could have no control over her. I reasoned that this unfortunate lady had some womb or vaginal trouble which gave rise to an acrid discharge. This would cause much pain during the night; dreams following as a result. Being a believer in spirits, the mind received them, and, as the vagina was the location of pain, it was easy for the dreaming imagination to supply the rest. Once fully established that bad spirits had raped her in her sleep, in her state of mind, the assaults could easily be carried into daylight.

Upon examination I found a granular os, much inflamed, and an irritating discharge. The usual treatment lessened the visits of the evil spirits, but they persisted in returning if treatment was neglected. Their offensive visits became farther and farther apart, until finally the sexual demons vanished from the presence of their long-tortured victim. This patient lived three years after the time here given, dying in childbirth at the age of forty-five years.

Some two years after the death of my patient an intimate lady friend, who shared and still shares her departed friend's spiritualistic belief, informed me that she had several visits from the departed friend, who assures her that my departed patient has met the same evil spirits in the spirit world, but that they are gentlemanly there. It was the evil effects of sinful flesh which caused their digressions. I am glad to hear this, as I do not want to treat her case again when I "cross over."

ECHINACEA.

By R. J. Smith, M. D., Schenectady, N. Y.

[Written for the Medical Brief.]

Echinacea is one of the most valuable internal antiseptic and antipurulent agents we possess. It is indicated in all blood dyscrasias, in all cachectic conditions, in sepsis, acne, boils, carbuncles, cellulitis; abscesses are benefited by it; in typhoid fever, pneumonia, puerperal sepsis, the eruptive fevers, especially small-pox and scarlet fever; in ulcerative tonsillitis, "spotted or tick" fever, in erysipelas, with tendency to sloughing, in septic wounds, and "blood poisonings," it is our most reliable internal remedy.

Echinacea will give results only when pushed; small doses do no good, unless administered at frequent intervals. In cases of acne, echinacea is prescribed three or four times daily for a prolonged period. It stimulates the glands of the skin, corrects autotoxemic states, increases elimination and oxidation, increases the appetite and feeling of well-being. The secretions being increased, constipation is corrected. The skin clears up

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gradually, often for a few days, the eruption is augmented. The color is enriched, and sallow skins warm up with the hue of health.

In boils and carbuncles, the dose is increased and given at shorter intervals. Echinacea should also be applied locally in full strength, the application to be renewed every two hours.

Abscesses should be opened and well drained and syringed out with the solution. Constitutional symptoms are met by its internal use.

In puerperal sepsis it is given freely, curetting being performed, if necessary. As many of these cases are autotoxemic in character, elimination must be thorough.

In small-pox, scarlet fever and ulcerative tonsillitis, its local use as a wash and gargle enhances the internal antiseptic effect. In a severe case of scarlet fever, with abscess of cervical glands, intense cellulitis of neck and a gangrenous throat, echinacea acted most wonderfully.

In epithelioma of the lower jaw its local and internal use quieted pain and corrected pronounced fetor.

In palmar abscess, with infection of lymphatics of arm, arm dark purplish, swollen and very painful, echinacea was used locally, and teaspoonful doses given internally every two hours, with great relief and rapid subsidence of the symptoms.

It is of benefit in the low, muttering delirium of neglected typhoid. In uremia, it acts as an eliminant of the retained toxins.

Senile gangrene is influenced for the better, seeming to produce rapid delimitation of the gangrenous area, lessening fetor, and preventing constitutional sepsis.

It is useful as an application to the breast in mammitis. In a case of breast abscess, where the mammary gland was honeycombed with fistulous tracts, the patient was placed in better condition for operation, and a larger part of the gland preserved under its influence.

In appendicitis, with general peritonitis after operation, for drainage purposes, it acted well in one case.

I have used it as a wash in purulent leucorrhea with benefit, also in extensive erysipelas with stupor and intense constitutional symptoms, with excellent results.

PERFORATION OF THE PALATE IN A NEWLY-BORN INFANT WITH HEREDITARY SYPHILIS.

Bonnet (*Lyon Medical*, February, 1908, *American Journal of Urology*, June, 1908,) showed the palate of a newly-born infant, demonstrating a median perforation. This is a rare manifestation of syphilis in early life, even though common in adult acquired syphilis. But three cases are recorded. The infant died in spite of treatment.

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IMPORTANCE OF PHYSICAL SIGNS.

By S. C. Delap, M. D., Kansas City, Mo.
Professor of Diseases of the Eye, Ear, Nose and Throat in the Eclectic Medical University of Kansas City.

[Written for the Medical Brief.]

Physical signs may include all the sensible manifestations from the hippocratic countenance to the dulcet tones, announcing the arrival of the first-born. The subject of physical signs may include in its omnivorous grasp all revelations by instrumental aids, from that of the beautiful picture presented by the ophthalmoscope to the finely-carved crystals of uric acid and the oxylates, and the portentous significance of tubuliferous casts. Turned loose in this wild field to browse, it can not be expected that a famished oculist will allow himself to be fenced off, in a single corner of it, by the boundaries erected there by Laennec and his followers.

If it be true, as has so often been stated, that not one out of ten practicing physicians has a definite knowledge, and is able to apprehend and recognize the various pathological sounds that emanate from the chest cavity, it is an unfortunate state of affairs, and one that might very easily be remedied. That those who graduated fifteen and twenty years ago, and a large proportion of those graduating since that time, had not the time nor opportunity for a working knowledge in this line, is one of the well-known facts in medical education. I well remember how it happened that during my senior year two or three cases were deemed of sufficient importance to bring before the class, in the medical clinic, and each senior was asked to place his ear against the chest walls, and glean the information the thoracic cavity was supposed to express, in the clearest English, to the understanding of a medical student, who was then completely dazed from the attempt to cram into his cerebrum, during a period of twelve months, barring a vacation of medical dreams, all the lore that might be of utility, from Hippocrates to Lister. All of us thought we heard something, and yet we were not sure but that we merely heard the friction from contact of the ear with a movable chest wall.. It is safe to say that we learned nothing. The patient's tongue may be capable of the purest English, but to the follower of Laennec his chest speaks in a sign language that is not English, any more than is chattering of the monkey, or the cackling of hens. His chest, in health and disease, appeals to the eye and the touch in a sign language that only needs an interpreter to understand more clearly than if the walls were as transparent as glass.

In the death of the lamented Dr. Diederich, there occurred a vacancy that invited an incumbent in vain. But inasmuch as there are always those who "rush in where angels fear to tread," the author of this paper, without any attempt to "rush," found himself attempting to do the work of Dr. Diederich. It need not be interpreted as vanity, when it is stated

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that the class learned something, and that the teacher learned more. One thing learned was, that the only way to teach physical diagnosis successfully is, first, to become thoroughly familiar with normal pulmonary and cardiac sounds. To the student, and to many physicians, the sound of the heart is merely a throb. Unless careful discernment is used, and persistent efforts at discrimination are exercised, the recognition of a first sound and a period of rest are not resolved into their necessary elements, the combination is meaningless. Unless normal bronchial breathing, and the normal vesicular murmur, their variations in different locations of the chest, and their modifications in different individuals, can be properly detected and appreciated, it is entirely useless to drift into the great variety of pathological sounds. It is a hindrance to the student to think of "murmurs," and endeavor to associate these with his own ideas that cluster around the ordinary understanding of the term. It were better the expression were never used until a clear perception is gained of the cardinal pathological sounds. The word "murmur" will then no longer be a stumbling block to the progress of the learner.

Another point learned, long ago, was especially emphasized, that the beginning can not be too elementary. In the class engaged in post-graduate work, of which I was a member, was a practitioner from New Hampshire, who had been a physician for more than a decade. When I entered the class he had almost completed the course, and I was disposed to look up to him as the under-graduate is generally disposed to view the senior. The professor never demonstrated anything but that he grasped it at once, and expressed himself as hearing all that could be heard. I heard nothing, either by ear alone or stethoscope. I stopped the demonstration by a frank statement to the professor that if he expected to teach me anything it would not avail for him to assume that I knew anything at all about the subject. This seemed to impress him with a new idea, and thereafter no demonstration was given in my presence that was not elementary enough to be understood by every member of the class. After the demonstration in question, the professor took pains to say that he would promise me that I would understand the subject before the term was ended. I suggested that he had, perhaps, forgotten that he had happened upon a doctor who was at the disadvantage of knowing nothing whatever upon the subject; that, perhaps, he had too much in mind the man from New Hampshire. "Oh," said he; "that man assumes that he knows it all, but he knows almost nothing." Subsequently, I was able to verify the professor's statement. It seemed the policy of the institution to flatter the members of the various classes rather than assume ignorance by making the instruction too elementary. I am satisfied that more would be known of physical signs if there was less assumption by both teacher and pupil.

Laennec may have acquired a knowledge of physical signs by his own unaided efforts, but it may be suggested that very few of us are Laennecs,

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either by opportunity or attainment. Nowadays a working knowledge of physical signs is only obtained by listening to these in the presence of a teacher. For five years I tried as hard as anyone, probably, yet my knowledge upon the subject was a perfect blank. Some years ago a graduate of an eastern college, and a practitioner in good standing in his own community, told me that he did not believe a physician could hear anything inside the chest cavity and definitely decide as to the pathological condition of the patient. I appreciated his frank statement, but, of the two, I was the only one who knew exactly what it meant.

It were better for the general practitioner to know nothing of surgery, or be ignorant of almost any other branch in the course of practical medicine, than to lack a well-defined knowledge of the physical signs.

Nor is a good working knowledge of the physical signs difficult of acquisition. All that is needed is an average dispensary clinic, a teacher who will concentrate his attention upon a few of the more important pathological sounds, after the normal are well fixed in mind, and a student desirous of becoming proficient rather than of leaving the impression with his classmates that he gets his information easily, and "knows it all." If the friction sound is thoroughly comprehended, as well as the subcrepitant râle, the crepitant râle, and what is implied in a heart "murmur," and its discrimination, as applied to the mitral and aortic valves, he is in possession of a groundwork upon which he can do his own building during subsequent years. But a differential knowledge of these is a prerequisite to any success that may come to him without instruction.

1214 Main street.

APPENDICITIS.

By Julius M. McLeod, M. D.

Professor of Principles and Practice of Surgery and Clinical Surgery in the Nebraska Medical College; Surgeon St. Elizabeth's Hospital; Examining Surgeon U. S. Marine Corps, etc., Lincoln, Neb.

[Written for the Medical Brief.]

Appendicitis is an inflammation of the vermiform appendix, and always of bacterial origin. It is a surgical disease, not amenable to medicinal treatment. No known medicine has any apparent effect upon the lesion. The symptoms may be controlled to some extent by medicines on general principles, but no medicine has any direct action upon the appendix, the disease being caused by micro-organisms only. Some authorities write of appendicitis as being caused by traumatism, but there is no evidence that traumatism has ever caused such a specific lesion. Traumatism may cause an inflammatory action in and about the tissues which may spread by contiguity to the appendix, but a true primary appendicitis is only caused by bacteria. These bacteria are nearly always pyogenic, and may be due to a

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staphylococcus or a streptococcus, but the usual bacillus is the bacillus coli communis.

Many authorities speak of constipation as having a causative relation to appendicitis, but in my experience, covering several hundred cases, I have never seen fæcal matter in the cæcum, the cæcum always being empty in every case in which I have operated. If the proximal lumen of the appendix is open, the pyogenic organisms and pus are deposited in the cæcum and the inflammation will terminate by resolution.

The term catarrhal inflammation is a misnomer, because the mucous membrane of the appendix is probably never alone involved, but the inflammation extends into the deeper structures. If the proximal opening should become closed, either by some substance which has formed, or by edema, caused by the inflammatory action, then the inflammation may terminate by suppuration or by gangrene. It will depend upon the severity of the inflammation or the amount of infection, or the depth to which the micro-organisms penetrate. If the appendix becomes distended with pus, rupture will probably be the termination, unless an early operation removes the appendix, or the circulation may be so interfered with as to produce gangrene of the appendix, before typical symptoms manifest themselves.

Inflammation in and about the appendix produces the same pathological changes as occur elsewhere in the tissues or in the blood. Increased leucocytosis takes place, and therefore phagocytes and an inflammatory exudate is thrown out around and about the appendix. This exudate organizes in the form of, first, delicate cobweb adhesions, followed by the development of fibrous tissue, which becomes thicker and thicker as organization takes place. These adhesions rarely begin to organize before the end of the first forty-eight hours of the inflammation, and may not begin until several hours later, but, as a rule, organization begins to take place at the end of thirty-six hours. In the beginning the adhesions are so tender that operations are inadvisable and contra-indicated, unless the symptoms are very urgent, because of the danger of breaking up the adhesions upon which the patient's life depends in case the appendix should rupture or gangrene should develop. This development of adhesions requires from four to five days before they are sufficiently firm to protect the general peritoneal cavity from infection, and for that reason operation is positively contra-indicated during the three, four or five days required, unless the symptoms are so urgent as to make operation less dangerous than to allow the inflammation to continue. The symptoms are manifested, first, by pain over McBurney's point, although it may occur at some more remote point in the abdominal cavity, and not occur at all over McBurney's point. There is no proportion between the amount of pain and the severity of the inflammation. There may be little pain and great inflammation, and vice versa. Patients frequently have numerous attacks of appendicular colic, with lit-

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tle or no rise of temperature. The next symptom to manifest itself is fever, and there is no proportion between the amount of fever and the gravity of the disease. True, the temperature will indicate the amount of inflammation and the amount of toxic absorption, but it does not indicate the gravity of the local condition as indicating impending rupture of the appendix or a gangrenous condition. If the temperature should suddenly drop below normal, that would be a grave danger signal. Temperature is co-existent with inflammation, and will continue with remissions and exacerbations as long as inflammation or infection remains. If the case does not progress to supppuration or gangrene, but terminates by resolution, the temperature should drop to normal by the end of the third day, or at most, the morning of the fourth day; pain should cease, and the patient have a feeling of well-being. Other symptoms are usually nausea and vomiting, headache, distension of the abdomen, and a tendency of the patient to draw up the right leg. If inflammation be violent, co-incident with distension of the abdomen there will be rigidity of the abdominal muscles, which is a dangerous symptom.

The difficulty usually met in this western country is the reluctance to early operation. It is often impossible to secure the consent of the patient, or the patient's friends, to early operation, because they fail to understand its importance. If early operation is done at all, it should be done within the first forty-eight hours. This is called the time-election, but operation should never be undertaken during the formation of adhesions, unless the patient's life is at stake. If the operation can be postponed until after the adhesions become firm, it will be very much better and safer. At that time, after the adhesions have become firm, and the visceral peritoneum attached to the parietal peritoneum, an incision can be made through the abdominal wall into the pus cavity with practically no risk to the patient, and with almost absolute certainty of success. If the operation can be postponed until the seventh or eighth day, it will be all the better for the patient.

The tentative treatment consists in applying ice-pack over the abdomen, and immediately emptying the bowels and stomach, and keeping them empty. However, no purgative should be administered after the bowels have been well opened, and no food should be administered by the mouth, with the possible exception of "make-believe" nourishment, like chicken broth or extract of beef. I need not say that there is no nourishment to these foods, and that they only satisfy the friends of the patient.

Drugs may be administered for some special reason, if the temperature becomes high, or if the pain is severe. Drugs are more or less dangerous, for they mask the symptoms, and should not be administered except for special reasons, and then only when carefully watched by the surgeon.

If an operation is undertaken for abscess or gangrene, where adhesions have formed, all that is necessary is to open the abscess cavity and secure

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proper drainage. Irrigation need not be done for a few days, but two rubber tubes should be inserted in order to provide proper drainage.

If an interval operation is undertaken between attacks, the author's favorite method is the "inversion" operation. The meso-appendix is cut back, the mesenteric arteries which supply it, tied off, a crush forceps is applied at the proximal extremity and an ordinary hæmostat to the distal extremity. The appendix is caught between these two forceps. The lumen of the stump is thoroughly cauterized with pure carbolic acid, followed by an application of pure alcohol. A purse-string suture is thrown around the base of the stump and the appendix. Following the inversion a row of Lembert sutures is drawn across, uniting the surfaces.

In making an incision for any purpose, the smaller the incision the better for the patient, because of less danger of shock following operation, and the less liability of infection through the wound; the fewer number of stitches required, lessening the danger of stitch-abscess, and the quicker convalescence established. In most uncomplicated cases the patient may be allowed to sit up in bed after one week. In cases where there has been infection the patients should be kept in bed for ten days, after which they may be allowed to sit up, and at the end of two weeks may be allowed to stand on their feet.

The author uses chromicized catgut for buried sutures, and silk-worm gut exclusively for skin sutures. He has abandoned all forms of catgut, also silk, silver wire, and all other suture material except the first two.

13th and O streets.

DYSMENORRHOEA AND ITS TREATMENT.

By Geo. E. Nour, M. D., Batroun (Mt. Lebanon), Syria.

When a woman suffers from backaches, fullness at the groins, cramps, radiating or shooting down the thighs, and various abdominal pains at the time of menstruation, she is then said to be suffering from dysmenorrhœa. It is not necessary to have all the above aches at one time to constitute dysmenorrhœa, but any or all of these distresses, if they occur at the menstrual period, will be called dysmenorrhœa, for menstruation is a physiological function and it must be performed, just like the secretion of saliva, without any feeling of pain or distress whatever, but should come on unconsciously. Therefore, any deviation from this normal process must be indicative of an abnormal condition in the uterus, or in the surrounding tissues and organs.

The treatment for such a condition is that which is directed, as much as possible, towards the removal of the cause.

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CAUSES.

The causes of dysmenorrhœa are numerous, and for the sake of brevity I will classify them under two general groups (I) Intrinsic Causes and (II) Extrinsic Causes, and will give the treatment for each cause as follows:

I—The Intrinsic Causes are:

1. An inherited or acquired rheumatic or gouty diathesis.

Treatment—Keep the circulation active and the body warm by woolen flannel underwear, and the occasional use of vapor or salt-water baths. Medicinally, give anti-rheumatics and tonics.

2. Inherited or acquired neurotic diathesis.

Treatment—Constant care to find out the cause or causes that led to the neurosis, and the treatment should be directed to the original cause, with due attention to the general tonic and hygienic treatment, as well as to the whims and inclinations of the patient. The hysterical should receive nerve sedatives and tonics, together with due attention to diet, cleanliness and regularity of the bowels. The neurasthenic requires change of air and a liberal amount of nourishing food, sunshine and systematic exercise of such a character as to excite their interest; frequent baths and rubbing of the whole body, especially the spine. Medicinally, give sedatives during the menstrual flow to relieve the pains, such as viburnum prunifolium, apiol, cannabis indica and chloral. The parotid extract also has been credited with satisfactory results; and general nerve tonics, such as nux vomica, damiana, phosphorus and various glandular extracts, have been used in the interval, with some claim to success.

Married life and parturition have been credited with excellent cures.

3. Congenital malformations of the uterus, such as narrowing of the neck, stenosis, contractions, etc.

Treatment—Consists of hot sitz baths and hot vaginal douches, with mechanical dilatation, assisted by local applications of belladonna ointment to the os and cervix, and also the use of the galvanic current have given some success.

4. Polypus growths. This growth sometimes yields to the influence of large doses of ergot, and becomes dislodged by the powerful tonic uterine contractions excited by ergot.

5. Anæmia, chlorosis and malarial toxæmia.

Treatment—Change of air, liberal diet, regularity of the bowels, saline baths and gymnastics. Medicinally, give iron, quinine, arsenic.

6. General plethora requires catharsis, mild diet, venesection or application of leeches to the anus, perineum, or to the internal surfaces of thighs.

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7. Sluggishness of the portal circulation.

Treatment—Give calomel, blue mass, phosphate of sodium, Carlsbad salts; walking, horseback riding and gymnastic exercises, such as chopping wood or boat-rowing.

8. Pelvic congestion, areolar hyperplasia, endometritis, pelvic peritonitis and cellulitis.

Treatment—Remove and abandon corsets and tight lacing, rest in bed, elevate the hips, and use hot fomentations of poppy, with leeches to the perineum, for the purpose of removing the congestion; also mild saline cathartics, hot sitz baths, with warm vaginal douches of boracic acid and water, or a weak solution of bichloride of mercury or potassium permanganate; and internally give nerve sedatives to relieve the pain. Then, after the menstrual flow ceases, treat locally by swabbing the vagina, as well as the endometrium (if endometritis exists) with tincture of iodin, icthyol and glycerine, or with a 10% solution of nitrate of silver or a twenty-grain solution of carbolic or chromic acid to the ounce. Then tampons saturated with boracic acid and glycerine should be inserted into the vagina every other day, to remove the congestion and reduce the hyperplasia. Build up the system with general tonics, moderate exercise and wholesome food. Should a specific taint exist, specific remedies are essential.

II—Extrinsic Causes are:

1. Exposure to cold and wet.

Treatment—Warm baths, diaphoresis, catharsis, Dover's powder, hot drinks and quinine.

2. Displacements, due to faulty dress, dancing or external violence.

Treatment—The displaced uterus should be replaced and properly sustained, corsets removed and replaced by a skirt supporter which hangs from the shoulders, so as to relieve the weight of the clothing from the abdomen and pelvic organs. Medicinally, give uterine sedative tonics, such as viburnum prunifolium, cimicifuga and general tonics, and hygienic treatment should be observed.

3. Luxurious and sedentary habits should be treated by active and systematic exercise, mild diet, change of air, catharsis and warm baths, to remove the accumulated poisons. A sea voyage often works a cure.

4. Habits deteriorating to the nervous system, such as sexual excesses, self-abuse and late hours.

Treatment—Such difficulties should not be overlooked by the physician, but should receive his due and prompt consideration, and be corrected by moral advice and persuasion. The physician should endeavor to improve the moral surroundings of his patient by instituting a system of physical

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exercise in the open air, and selecting for the patient a busy and wholesome occupation, so as to divert the mind from its morbid tendencies. Medicinally, spinal sedatives, such as bromides, camphor, etc., should be given.

5. Emotional influences and sudden mental disturbances.

Treatment—These conditions are best corrected by cheerful surroundings, to lure the mind from the influences which distressed or excited it. The patient should be sent to the country for a quiet out-of-door life, horseback riding, walking, golf or tennis-playing, early hours of retirement, and a plain, wholesome food, and bathing, all of which will be enjoyed, with decided benefit and the cure of the individual.

DESTRUCTIVE AND CONSTRUCTIVE THERAPEUTICS.

By Axel Emil Gibson, Los Angeles, Cal.

[Written for the Medical Brief.]

I—RESPIRATORY GYMNASTICS.

One of the methods by which egotistical ambition seeks to attain physical and mental powers, consists in coercing nature, through a series of mento-physiological processes, to yield undue favors in her evolutionary administrations.

The function which apparently has yielded more power and therefore has been subject to more excessive applications than the rest, is the function of breathing—the central and silent agency which supplies the operations of life with the powers of life. For in the commonwealth of the body, respiration performs the tremendously important office of transforming the chyle of the portal circulation, through the process of oxygenation, into fresh, revitalized blood, ready for cellular elaboration in terms of reconstruction of tissue and regeneration of force and heat. Furthermore, through oxygenation the blood-corpuscles become freighted with chemical power, enabling them to combust old devitalized body tissue and release the waste poisons, ammonia and carbonic acid, from the constructive or somatic cellls.

From this, however, it follows that the function of breathing is subservient to the systemic circulation and depends for its frequency on the amount and quality of the blood-stream passing through the lungs for oxygenation and expurgation. Hence, the quicker the circulation, the more rapid must be the respiratory action in order to meet the increased demand on fresh oxygen; while conversely, the slower the vascular exchange, the less accelerated becomes the pulmonary activities.

Now, back of the increased speed of the blood-stream is, of course, to be found a quickened heart-action, while through the latter stirs the

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initiating and executive impulse of that ganglionic center known as the *medulla oblongata,* in the lateral grooves of which the *pneumo-gastric* nerve—the nerve that controls the cardiac motility and frequency of contraction—has its main root. Hence, so far from being the initiating cause to the generation and liberation of systemic heat, force and energy, the lungs are simply acted upon and made to respond to anterior causative conditions. Realizing the urgency of a quicker circulation to meet imperative, systemic demands, the *medulla* sends an impulse to the heart to accelerate its action, with the immediate result of an increased circulation of the blood. Consequently it is in this deep brain-center of the sympathetic system, and not in the organs of respiration *per se,* that the signal is given for the systemic need of an increase or decrease in respiratory and circulatory action. And furthermore, in practicing either the forced or subdued phase of respiration, a danger is threatening, either in the withholding from circulation of the proper amount of oxygen, and hence the starvation of dependent tissues—or in the undue increase of oxygen intake, with the subsequent liability of letting loose in the system a volume of uncalled-for combustibles, which, in lack of adequate waste material to burn, may start a raid on fresh, normally functioning body tissue. Hence any lung gymnastics, with the exception of a full, rhythmical, unstrained respiration, as mechanic response to increased or decreased physiological demands, is not only useless, but ultimately harmful. For the feeling of stimulation following such gymnastics does not spring from the overplus of energy generated from a normally invigorated cellular functioning, but, like the alcoholic stimulant, arises from an irritation due to the excess of oxygen let loose in the nerve-cells, and by which the latter are whipped into an artificial, maladjusted and ultimately ruinous strain of resiliency. In most cases this respiratory juggling aims at the attainment of morally and vitally unearned powers, which, like all transgressions of evolutionary laws, works out its atonement in terms of pain and suffering, premature decay and final dissolution. The natural method is the only physiologically legitimate and ultimately safe method. Evolution does not proceed in leaps and spasms, but in steps of causative order, unfolding powers and characteristics in response to unselfishness of motive, and in loyalty to the laws and principles underlying the order and sustenance of the universe.

2—MENTAL INTOXICATION.

However, the individual desire to grow is insatiable, and often—if stimulated by strong personal ambition—may ignore and defy the evolutionary order of cause and effect. Indifferent to moral and vital desserts, the person, straining for powers, forces his way onward, and when his normal resources are exhausted proceeds to practices by which the mind

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itself, with its storages of psychic forces, are brought to bear upon the cellular and molecular processes of the body.

In efforts to affect the speed and direction of the blood-stream, besides purely physical agencies, the ingenuity of selfish ambition has discovered another means of artificial growth. Having realized the influence mind holds over matter, the practitioner, by a strong sustained concentration on some other part of his anatomy, may succeed in coercing the direction and speed of his blood-stream, and thus, through the resulting increase of blood pressure, either work out the cure of a diseased organ, or cause disease by over-stimulating a normal one. Supposing, for instance, the pineal gland to be the seat and center of self-conscious intelligence, the practitioner, by concentrating his mind on this organ may accomplish an increase in its blood pressure and thus bring about a sensation of warmth in the middle of the head, accompanied by a feeling of momentary exhilaration. Principally and essentially the process is identical with alcoholic intoxication, being characteristic of the same sensation of high mental and vital tone accruing from released reserve energy. As mental intoxication, however, involves the tapping of deeper force centers, the reaction—when the draft on the vital principle is due to be paid back—is deferred and placed in concatenation with incidents of later life. Sometimes, however, the reaction may occur immediately, in cases where the superinduced blood pressure forms venous stasis in the brain and thus may at once invoke the paralyzing stroke. Again, if the stasis should occur in some organ of the main body, the ensuing congestion may start progressive changes of structural break-down in the involved organ.

3—MIND, A NEGATIVE, NOT A POSITIVE FACTOR IN HUMAN EVOLUTION.

It may indeed be seriously questioned whether in the state of his present moral development, man can trust himself, or be trusted, with experimentation in technical mental therapeutics. For the mind, which in its present state of evolution, stands by preference for personality and isolated development of self, is laboring under limitations which makes it entirely inadequate and unreliable to adjust the intrinsic processes of progressive, functional, systemic life. Its powers of influence over physiological processes have therapeutic legitimacy and vital value only when holding a negative or passive position to these processes. In other words, the true attitude of the individual to physiological life lies in avoiding any interference with the functioning of the latter, *i. e.*, to keep the mind off from fear, worry, morbid imaginings, undue personal desires for undue and disproportionate growth. Hence, the only safe position of the mind toward physiological development is that of passive observer, adequate of interfering only on the objective plane, in terms of removing

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obstructions and encumbrances from the extrinsic fields and pathways of general unfoldment.

The purely vegetative life, with its intricate processes of metabolism and vital chemistry, can only *haphazard* and indirectly be manipulated on the mental or intellectual plane. Hence, appeals for health and vital power, to be fruitful and free of danger, must be addressed to the moral and spiritual plane, impelled by motives of general usefulness and benevolence; while the agencies and instrumentalities for the invoked healing force should be selected from the plane of the body itself, from the elements forming parts of its own composition. With few exceptions the individual mind is as yet a very crude, one-sidedly and heterogenously developed vehicle for an only half realized self-consciousness. Hence, the function of the mind is to serve as a medium for moral and spiritual impulses rather than to generate and execute *de novo* notions, imagined by personal selfishness to be true needs, but from the very nature of their motive are in themselves shallow, limited and unreliable, and more often detrimental than useful to the owner. In all cases of true, strong benevolence, where the extended efforts, purely altruistic to their motives, have inaugurated new eras of practical welfare to the commonwealth, the mind has always been the servant, the mere interpreter of the mandates of higher moral and spiritual self-consciousness. In the higher evolution of humanity, speculation must surrender to intuition, self-interest to altruism, and sensation to feeling.

For the light of the mind, ever borrowed or reflected, depends for its value on the purity of its source and transparency of its medium. A selfish motive, however disguised in the subtlety of metaphysical argumentation, distorts and vitiates the entire mental process. A veritable moon, in itself non-generative and lifeless, the selfish mind, while reflecting the borrowed light, transmits to every ray the egotistical emanation of its own cool, sterile, feelingless character.

Yet in its own domain, and while obeying the dictates of the soul, the mind is a noble masterpiece of evolution, arising in the consciousness of the human being for the purpose of serving as a field of experimentation for thought, will and reason. It constitutes the workshop of the soul, in which the latter brings to bear its divine attributes of self-conscious intelligence on the concrete vicissitudes of human life. But the mind must ever be the servant, the soul the master, and the true man, a knowing, self-conscious observer of the history, aim and significance of the motive powers at work in his mental nature. The mind, if not rendered abnormal and unreliable through straining for false and illegitimate powers, may be trusted in gauging the external movement of the body in its relation to time, space and concrete relations, occupying the same relation to its charge—the physical body—as the headlight to its locomotive,

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reflecting a borrowed light on the tracks of routined and scheduled progress. But the ulterior aim and destination of the vehicle, its repair and integral adjustment, is placed under the controlling influence of an altogether different order of intelligence. Hence, while an engineer is kept informed through the headlight of his engine concerning the condition of his path of travel, thus making it possible for him to avoid dangers, so the human soul has in the normal mind a means to obtain information about conditions associated with its destined evolutionary advance. But no more reasonableness can be found in regarding the mind as the directing, controlling power in the vital physiological processes of the body, than to grant to the headlight of a locomotive the power to instruct by its light the dynamic and progressive movements of the machine.

From this may be realized the fortuity and danger connected with mental therapeutics. The blind are guiding the blind, while mental impulses are let loose at random in the mind and body of the patient, purporting to initiate changes, reverse levers, reinforce dynamos, and ignite vitality in deranged systemic functions. The mental impulse which might galvanize into seeming virility and health a given organ or function may in that very procedure, by disconnecting the chain of cause and effect, which relates vitally the different physiological processes, lay foundation for grave functional disorder and premature systemic breakdown. The only guaranty for safety in mental therapy lies in the very rare power of the healer to observe concretely and self-consciously the field of operation, to grasp the elements and principles involved in its vital dynamics, and finally to possess the magnetic and mental reserve energy by which a regeneration and readjustment of the deranged anatomical or physiological elements become possible. Any shortage in these requirements is foredoomed to failure; and the person who undertakes mental healing without being equipped with such knowledge is either an unreasoning, irresponsible ignoramus or a dangerous imposter.

CONSTRUCTIVE THERAPEUTICS.

In the knowledge and application to the human body of the laws and principles that operate in the great pharmacopœia of nature, lies the only guaranty for a safe adjustment and cure of bodily ailments. And as the movements, actuating and stimulating physical growth and depending conditions of health, involve the operation of every known principle of chemistry, mechanics and dynamics, it follows that the science of healing must extend its researches and become acquainted with every field or phase of life where such knowledge may be obtained. All the kingdoms of nature, air, water, fire, earth, should diligently be brought to bear upon the diseased body. In place of spending mental and physical energy on the conduction of the "vital airs" or breath, in sending it down through

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the right nostril and corresponding side of the spinal column, and back again along the opposite route—would it not be more useful and reasonable for the earnest student of life, if desirous of assisting suffering fellow creatures in regaining their lost health, to try to work out the vital connection between certain plants and certain physiological functions; between idiosyncrasies of human nature and physical nature; to ascertain with scientific accuracy the true curative value of certain "home cures," old-fashioned nature remedies and herbal compounds; why and how, for instance, parsley is good for the kidneys, tomatoes for the liver, celery for rheumatism, cranberries (applied fresh) for eczema, raw carrots for gastritis, etc.? In other words, to find scientifically determinable values for nature herbs by ascertaining their intrinsic chemical-physiological relation to the functions and organs on which they seem to exert an influence; and to establish a standardized terminology between these relations. Such a study would be of epochal value to humanity.

Nor should the purely mechanical phase of human nature be neglected: the stretching of muscles, vibratory stimuli for slow circulation, adjustment of sprained or strained tissues through massage treatment, etc., employing every measure that aims at restoring man's relation to nature, and thus to render his body a more worthy, more fit instrument for the service of humanity. The elements of the body are the elements of the universe performing their functions under the sway of identical laws.

But while the means and instrumentalities of health belong to the molecular, tangible, rationally and scientifically determinable plane of existence, the gauge of judgment and standard of motive must belong to the moral and spiritual planes. The physician should draw his learning from the mental plane, his feeling from the spiritual plane and his motives from the moral plane, while the patient must be treated on the particular plane of his disease. If his mind be affected, to that extent the treatment must be mental; if his feelings are deranged, approach him from the plane of soul and conscience; if his motives are confused, speak to his moral nature; but in any and all cases, the appeals to his conscience and mentality must involve his reason and self-conscious powers of judgment. And as all diseases, with the exception of accidents and congenital disorders, have their root and genesis on the moral plane, the road to cure and health must naturally lead through the fields of conscience and morality.

MORAL HEALING VERSUS MENTAL HEALING.

Hence, he that lives the life shall know the doctrine, and to know the doctrine means to be an initiate in the philosophy of life, a master in the science and art of healing. The moral life must hold the gauge for the mental life, and the intellect, keyed to the profound note of feelings, must be dimmed by no selfish or irrelevant motives.

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While mental healing in its practice on the physical body may ultimately lead to serious derangements of the latter, its range and scope of malignancy is immeasurably greater when attempting to correct discrepancies of the moral and mental nature of an individual. Even in cases where apparently good results have been forthcoming, the ultimate sequelæ due to the general weakening of selfhood and moral tone of the doctored mind, have more than counteracted any seeming direct improvement. If a drunkard fails to be moved by intellectual, well formulated reasons, coupled with loving appeals to his manhood, self-respect, social obligations, etc., there can be no gain of moral survival value in accomplishing his conversion by suggestive, mental coercions. Conversion by force without the involvement of the moral will, is worthless. Hence, all what the mental therapeutist has accomplished through his metaphysical strategy, is a mere moral simpleton—a temperate automaton—a being whose stunted, not strengthened, will power has incapacitated him from indulging in his old sin. He is like a runaway horse, rendered tame and docile by knocking off one of his legs. Thus, out of a man, wrestling under the shifting aspects of success and failure, the mental healer has turned a docile slave, harmless and hopeless, a moral eunuch, emasculated and non-virile, a disarmed, disabled and discharged soldier on the battle-field of life. He is safe from defeat just because of having lost the power to win. For it is only through realization of failure that we arrive at a realization of what is meant by power, triumph and victory. Or, in the words of profound scriptural symbolism, the power of the cross comes only by the way of the cross.

For it is not the attainment of physical health, by and through itself, that universal evolution is aiming, but the attainment of moral health. It is not so much the turning out physically-well men that true progress stands for, as the turning out of useful men. And if moral power for its generation and development needs the process of physical distress, the escape from the latter is a loss, not a gain. Physical health, without moral health is of no practical value; and moral health means *will*—will as means and method, as power and attainment—the omnipotent lever capable of reaching every altitude of cosmic progress. Without the awakening in the mind of this will—the action of which means self-control and dignified manhood—the drunkard still remains a drunkard, even if by some subtle, sub-conscious "reversion of type," the outward gratification of his vice, through the inhibition or paralysis of corresponding psychic centers, is rendered functionally impossible. For the weakness, represented in his vice, has only shifted plane or center of manifestation, and may strike out in some new, wholly unexpected form, perhaps ultimately more fatal to himself and to the world than the one from which he was relieved.

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In the great college of universal life the student must learn his own lessons, work out his own problems. Principles and lessons may be taught, examples presented, and the paths of endeavor clearly mapped out, but their practical application to individual vicissitudes and moral responsibility can not be shifted from one individual to another. The scheme of vicarious atonement is no more satisfactory to justice and order from a scientific than from a moral point of view.

This view, however, does not intend to exonerate the individual from the task of being his brother's keeper, nor in any way to weaken the bonds of responsibility that cement the world-fabric of human relationship. On the contrary, this article aims at an accentuation of our duties to all that lives, and the necessity of helping man to help himself. Suggestions and advices are indispensable aids to the morally helpless, but the suggestion should be brought to the waking consciousness of the individual through the forum of his reason and judgment, fully reserving for the latter the agency of free will and choice. For there can be no real value in an act not the outcome of deliberate choice, nor can there be any safety or permanence in a virtue which has not sprung from the fire test of an enlightened and scrutinizing reason. It is the strengthening and enlightening, rather than the substitution of an individual's judgment that should be the method and object of our helpfulness; and to attempt to cure the mind while reason is yet unconvinced, judgment still unable to discern, and the will powerless to execute the dictates of conscience—is of no more ultimate value to the character-building of an individual than to cure him from a disease while yet permitting him to continue to indulge in the very habit and mode of living that originally brought about the disease.

First and last, hands off the mind! Let us help our physically and morally weak brothers by appealing to their reason and judgment, and the mind, in response to the genesis of its nature, will become the loyal servant of a morally awakening conscience and spiritually empowered will.

DISPLACEMENT OF THE NASAL TIP AS A MEANS OF ALTERING THE APPEARANCE OF THE FACE.

By Charles C. Miller, M. D., 70 State Street, Chicago.

[Written for the Medical Brief.]

The position of the nasal tip plays an important part in modifying the personal appearance. When the tip is high up or upturned we have a marring of the features. The same may be said when the nose is too long and the tip is projected directly outward or incurved towards the mouth. Lateral deviations in a few instances alter, disadvantageously, the entire face.

The tip of the nose may be loosened from underlying tissues without fear of sloughing or other untoward result. The vascularity of the tip is

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so great that it may be extensively undermined and tissues dissected from beneath the skin, and healing will be without unpleasant incident.

Where the tip is too long the soft parts of the tip may be removed or an attack may be made upon the cartilaginous septum, and a portion of the septum removed so as to permit of lowering of the tip. When the tip is held in an elevated position so that the individual possesses a snub or pug nose after the tip has been loosened, it may be sutured in a lowered position, and if it has been separated freely enough from underlying parts the sutures will hold it in the lowered position until healing occurs.

The nose of excessive length or the hook nose may be shortened by the excision of the soft parts from the tip, or from the septum, or both, and the parts immobilized in a normal relation by sutures. Lateral deviations may be overcome by loosening the tip and then the part may be attached in its normal relation. Should there be any abnormality as to size or shape of a laterally deviated tip, such should be overcome before the operation is completed by suturing the tip in its altered position.

These operations should be performed through the nasal vestibule after the parts have been thoroughly scrubbed and the tissues rendered insensitive by infiltration with a one-fourth of one per cent solution of cocaine.

The first incision should be made completely under the tip, and close to its attachment to the septum. A narrow-bladed knife is carried through one nostril and swept in a half-circle so that it separates the tip freely, and this part may be displaced so that the under surface of the tip lies directly over one or the other nasal orifice. Tissues to be excised may then be cut away by the operator, and if he controls the bleeding he can see exactly what he is cutting. Bleeding is free from these parts, as the vascularity is considerable. Spurting vessels may be crushed with strong hemostats or twisted with torsion forceps. Should the operator care to disregard the bleeding he should control it before the sutures are applied to fix the tip in place. Sutures tied tight enough will control bleeding, but in doing these operations for altering the position of the nasal tip, such a method of controlling hemorrhage is not advisable. The operator should have but one object in view, and that is to secure the tip safely in its altered position. Should he be hampered by bleeding and try to pass his sutures for the double purpose of controlling bleeding and attaching the tip in an altered position he may fail in this latter effort, for the suturing of the tip in its altered position requires care. In some cases, after a painstaking effort, when the sutures are tightened and tied, it will be found that the tip is not held in the position desired and it will be necessary to remove the sutures and reapply them.

Where the tip is to be held in an elevated position, the suture carried through the septum should be higher than where carried through the tip, and where the operator desires to secure the opposite effect this technic should be reversed.

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Sutures should hold the tip in its corrected position without being tied too tightly, otherwise they will cut through the included tissues and the tip may slip into an abnormal position, so that the operation must be repeated.

SACCHARIN AND ITS USE IN PRESCRIBING.

By Harold T. Houg, Ph. G.,
Medical Department Marquette University.

[Written for the Medical Brief.]

It is the anhydride of ortho-sulphamide benzoic acid, or benzoyl sulphonicimide; it is a sweet imide derivable from toluene. Its constituents are represented by the formula $C_6H_4 \langle \begin{matrix} SO_2 \\ CO \end{matrix} \rangle NH$. This synthetical sweetening substance is known as saccharin, gluside, saccarol, glucimide, garantose, and various other trade names. It is manufactured from tolune by first forming the ortho-sulphonic acid $C_6H_4 \langle \begin{matrix} SO_3H \\ CH_3 \end{matrix} \rangle$; from this we get the sulphonimide $C_6H_4 \langle \begin{matrix} SO_2NH_2 \\ CH_3 \end{matrix} \rangle$; from this by oxidation the sulphamide benzoic acid $C_6H_4 \langle \begin{matrix} SO_2NH_2 \\ COOH \end{matrix} \rangle$, of which the anhydride is official. When this saccharin is dissolved in alkaline hydroxide solution the salts are formed. Saccharin is rendered quite soluble in water by addition of small amount of sodium bicarbonate. Saccharin is soluble in about 250 parts of water and in 25 parts alcohol. It is 300 to 500 times sweeter than sugar; one part will sweeten quite strongly 10,000 parts of water. This is an ideal drug to replace the use of sugar in prescribing.

How very disagreeable it is to see a bottle of medicine all covered with caked sugar; this alone is sickening and disgusting to afflicted. In disease, digestion is nearly always below par, and it is needless to say that sugar will ferment, forming gas and acidity, thus rendering it far more impaired.

Sugar is not given in prescriptions as a food, but merely as a sweetening agent. Saccharin is not a food, although it is used in food as a substitute for sugar, especially in the European countries. Here it should not be used, as it can not replace important food substances as carbohydrates. It should be just *vice versa* to the above.

It seems to me that here we have an ideal sweetening agent, one in which is required very little physiological activity, being rapidly absorbed and eliminated through kidney unchanged. It is a feeble antiseptic, but appears to have no action on gastric digestion. It is an excellent substitute for sugar in diabetic conditions. I consider saccharin as an ideal substitute for sugar in prescribing. Solutions of it could be kept on hand and used when required.

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MEDICINE CONSIDERED AS A BUSINESS.

By P. C. Sutphin, M. D., Canmer, Ky.

[Written for the Medical Brief.]

Whilst medicine is one of our higher and more erudite sciences, and carries with it at the same time the highest respectability as such, and whilst in its higher standing thus considered no further, it would present an attractive field for those who might wish to enter upon it as a pursuit, such being the case, we inquire next, what is it when viewed from the standpoint of a business, or conducted for a livelihood, as the other business pursuits of life?

In entering upon this part of the subject, in order to inquire into it, two main considerations present themselves for more especial notice; first, the labors attached to the practice of medicine, and, second, its pecuniary remuneration.

Now, speaking first of its labors, we find a diversity of opinion, to a great extent, as regards this—that is to say, the ordinary public, as a rule, viewing them one way, and the medical profession another, and generally quite a different way. By the ordinary public, for instance, these labors are, as a general thing, looked upon as light or easy, consisting for the most part, as I had one once to remark to me, "In riding pleasantly around, and giving a little physic," or as another said to me, "I wish I had nothing to do but to ride about like you, and enjoy myself."

It may be said of this roseate view of these labors, however, that it could not be said to accord with that of physicians who, but too generally find that these labors, instead of being the pleasant recreation that some suppose them to be, are often quite the reverse. It is the case, in fact, that they are, as a rule, more or less arduous and, at times, even exhausting. Take the physician, for instance, in active practice, say during the visitation of some serious and protracted epidemic, when he is "going day and night," it may be for weeks, getting but little sleep, and frequently none, as riding and sitting up together all night—take the physician in such a practice as this, or suppose, to say nothing of the epidemic, take one who has a large practice, extending, if a "country doctor," a goodly number of miles around him, then to "fill up" this properly, would often be fatiguing, and at times, as just said, exhausting. I have known an instance or two, in fact, where the country physician, exhausted by these labors, has left home and gone, for a time, to some outside section to get beyond the "reach of the call," in order to obtain a rest he was compelled, *ex necessitate*, to have.

As making these labors still more burdensome, we have connected with them the exposure of the physician, while practicing, to all kinds of weather. It may be the cold, chilling blasts of winter, or the scorching

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heat of summer, with its drenching rains and heavy storms; in fact, whatever the weather may be, cold or hot, rain or storm, there is no escape from it for him, but he must, at all times, attend to his practice, let this be day or night, and it may be added, "Sundays not excepted."

Taking all these facts into consideration, therefore, to say that the labors of the physician are but so much "pleasantly riding around and giving a little physic," is of course only absurd, as these labors, taken in connection with the fatigue, oft exhaustion and exposure, just mentioned, present anything but an attractive feature in the practice of medicine, or that could be considered otherwise, in the main, than as a serious objection to it.

Passing now from any further consideration of these labors, I come next to the pecuniary remuneration of medicine as a business.

Now, entering upon this part of the subject, we have a "two-sided" question again presented to us; or, as with the labors just spoken of, the ordinary public, more generally, viewing it one way and the medical profession another. By the former, for instance, medicine is looked upon usually not only as a "good paying business" as a general thing, but one in its more active practice highly renumerative. Nor is this to be wondered at when we consider the ground on which it is based; that is to say, on the supposition that the doctor is always duly paid for his services, and that his losses by bad debts are not greater than those common in the other business pursuits of life.

As "all that glitters is not gold," however, so the error is in supposing that the physician is always adequately paid for his services, and that his losses by bad debts are not more than those of the other business vocations. So far from this, he is but too often inadequately paid for his services, while his losses by bad debts are usually much in excess of those of other business callings. Of course, it is not meant by this to say that this is altogether a general thing; *per contra*, I have every now and then heard some physician boast of his "gilt-edge" practice, in which his charges were always paid in full, with the bad debt but the rare exception; though while this is so, yet the rule still holds good as to what has just been said as to the inadequate pay of the physician and his losses by bad debts. Taking medicine, in fact, generally, it is, so far as my observation has extended, but little more than the "ordinary living," with but little, usually, laid up for a "rainy day." I have known but the few, in fact, to grow rich from its pursuit, while the large majority are generally poor, or in "moderate circumstances," with those who have died, leaving none, or but few, or this "world's goods" behind them.

While this is the case, however, yet as "all rules have their exceptions," so we find some who have not only become rich from the practice of medicine, but even realized princely fortunes from it. Thus we are told that

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Erasistratus, a noted physician of antiquity, was paid by Selencus, ruler of Syria, $75,000 for discovering the disease of his son, Antiochus; Democedes, for curing Darius of an injury, was given a seat at the latter's table, and overwhelmed with riches. Antonius Musa, a freedman, having cured Augustus of a serious illness, was loaded with wealth by this emperor, raised to the Equestrian rank, and had a bronze statue erected to him. Dr. Dimsdale, an English physician, was paid $60,000 by Catharine, Empress of Russia, for going to St. Petersburg, and inoculating her and her son. Dr. Willis, the physician of King George, who was called to treat the Queen of Portugal, was paid $50,000, traveling expenses for himself and suite, and an additional $100,000 after the cure of the patient

Other cases of a similar character, as drawn from historical sources, I could make mention of, but taking all such cases in the aggregate, historical and other, they are found but few comparatively, or rare exceptions, while the rule still holds good as to what has been said in regard to medicine looked at from the standpoint of its remuneration as a business.

But while medicine is thus, taken generally, inadequately paying as a business, we are confronted with the question as to why it is so in the case of one of our more learned, important and responsible professions, and one of the highest respectability and standing.

In answering this question, probably the proper solution of it lies in the bad financial conduct of the business, in a general way, by physicians themselves. Properly conducted, really, in a business-like way, there is no reason why medicine should not be a good paying business; while to conduct it in the loose financial way, but too common with physicians, it may be said to offer but little more ordinarily than the common, or mere respectable living.

Speaking now more fully as to this financial management, in order to make medicine of requisite pay as a business, it would have to be put on a pure business basis, in common with other properly conducted business pursuits. As an important requirement, in the first place, the extended, indiscriminate credit system, but too common with practitioners of medicine, would have to be abandoned, and one of cash or responsible credit be instituted in its stead. This would be to guard against the many bad debts always inseparable from the loose credit system—a system that would cripple any business, or make a failure of it. For physicians, therefore, to conduct their business on such a credit as this, would simply be to give much of their practice away for nothing, not to say anything of the "no thanks" for it. It is only so much gift, but too often such credit as this, and often constitutes a large percentage of loss in the gross earnings of the physician.

But while this indiscriminate credit, thus so prolific of bad debts, is always a source of a loss more or less serious to the physician, there is still another source of loss to be considered, that of gratuitous practice.

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This is done for those unable to pay the physician for his services, if they would, and this proves a tax to him, always more or less serious, according to the amount done. In some communities, this loss is often burdensome from the number of the poor in it, while I have known no community that this tax to the physician from this practice did not prove a greater or less percentage of loss to him.

It may be said, however, that all such cases as these are but so much charity, and that they claim the services of the physician, though he may be paid nothing for them. Now in regard to this, while it is admitted that such cases may be objects of charity, yet doing their practice for nothing is quite a different thing. It is true that in some of the more urgent cases, such, for instance, as post-partum hemorrhage, sudden serious accidents, and other similar cases, ordinary humanity would require, as in pulling a drowning person out of the water, that the physician attend such cases, though knowing that he will be paid nothing for it, yet that he must do all indigent practice that may be in his professional "beat," and do this gratuitously, is something that ought not to be expected of him, and he should decline to do, in defense of his higher interests. Such practice should be put on an ordinary business basis, and not be a gratuity on the part of the medical man, more than on the part of others in the other pursuits of life. I remember when attending the medical school from which I graduated in Philadelphia, hearing one of the professors say, speaking of gratuitous practice to the indigent classes, that the physician was under no more obligation to give his services to these for nothing than the baker his bread, or the butcher his meat. And we may add, or the grocer his sugar and coffee, the merchant his shoes and other needed goods, and so on of the other vocations of life, pursued as a means of gain or livelihood. In these cases of more urgent necessities of the poorer classes, as is known, provision is usually made for them at the public expense to tide them, temporarily or otherwise, over their exigent condition. Such supplies as may be needed by them are furnished and paid for, as just said, at the public cost, and it is thus that the provision should be such that the physician should also be paid for making a supply of his services to them, and if not so paid, he could not be blamed if he declined to do such practice. To express it ordinarily, he is "working for a living," and to make this he can not afford to give his practice away for nothing, any more than the baker his bread or the butcher his meat. Nor in this should he be controlled by any public sentiment, claiming that, as a matter of charity to the poor, he ought to do it, if they are unable to pay him for waiting on them. No provision is made at the public cost to give his services to them gratis.

While much more could be said on this subject, I close by saying that if physicians would make medicine properly remunerative, they would have to put it on a true business basis with the other proper paying pur-

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suits. Loose and indiscriminate credit, the *fons et origo* always of bad debts, that which makes the doctor generally "the last one paid," and reduces his business to what is but too generally the mere economic living, should give place to cash or responsible credit before mentioned, while gratuitous practice, with due regard to exceptional cases heretofore named, should be reduced to the lowest minimum. Establish these reforms and let physicians charge adequate fees for their services, and medicine, in a general way, would be both profitable and, as such, desirable as a business pursuit.

THE HONEST PHYSICIAN.

By A. D. Hard, M. D., Marshall, Minn.

[Written for the Medical Brief.]

In the January Brief I gave a composite word-picture of a "Successful Physician," as may be found, I am sorry to say, in many localities. As an unforeseen result I have been the recipient of quite a number of letters stating that my description exactly fits a certain doctor in the letter-writer's town. Other letters commend the picture, and urge me to write another article for the Brief in which my *ideal* physician is depicted.

The ideal of anything is perfection, and I can not imagine a perfect physician, but as an aspiration toward perfection I would suggest simply an honest man.

There has always been a difference of opinion in regard to what constitutes honesty on the part of a physician. An absolute falsehood, when the patient's interests seem to require it, is considered honest by many. A lie to a child is often not called dishonest, and evasion of the truth is usually considered, like cheating the railroad, as serving the Lord. This may be the kind of honesty that constitutes "the best policy," but it is not honesty from principle. The honest physician should be honest from principle. I do not think that a physician who is honest from principle will be apt to be rated high in Bradstreet, or be credited with unusual ability or integrity by the people for whom he may work. His principles interfere with an occasional clever side-step toward wealth, and the modesty that is always a companion of honesty forbids him from blowing a brassy horn of self-praise. He observes propriety in small things, not because it pays to do so, but because it is consistent. He will not tell a child that the medicine is good, as a means of getting a disagreeable dose down its throat, nor intentionally lead people to discredit the ability or integrity of a brother physician. He will use equally exact judgment in refusing to administer medicine to those who persistently seek after unneeded drugs as he does in treating with proper remedies the sick who come under his care. He well knows that people in general are usually influenced in selecting their physician by whims, or gossip, instead of

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accurate information regarding his education and integrity. He knows that the patrons who are most critical are nearly always the ones who are least capable of intelligent criticism. He can usually say truthfully: "Show me my critic and I will tell you how much he owes me." He is well aware that consultations, as a rule, are fraught with deception, hypocrisy, efforts to gain undue professional prestige, and actual disadvantage to the patient instead of benefit, and frequently he should withdraw from the case rather than be a suspect, even, of such dishonesty. Our experience has taught us that there are people in every community so wise that if God Almighty, with His infinite ability should choose to practice medicine in their own town, some other physician would be selected by them when overtaken by illness. An honest physician will treat such people with due consideration. An honest physician will not restrict the definition of the term honesty to actual words of deceit. Dishonesty consists in the *deception,* not in the *methods* of bringing it about. I am sorry to say that honesty, as a rule, is not a paying proposition. An honest physician must not expect to acquire wealth, walk on thornless paths, or sleep on downy beds of ease. He must not even expect to receive general credit for being honest, and, as a rule, his word will not be as convincing as the egotistical brag of a bombast. It is very unfortunate that in this world honesty does not carry with it the certainty of adequate reward, but such is the fact. Nevertheless, we all bow our heads with heartfelt respect when we meet an honest man. But we do not have to injure our anatomy by many motions of that kind. The importance of honesty in a physician can not be overestimated. If the merchant is dishonest, you may lose a few cents in a deal. If an office-holder is dishonest, you are not at all surprised. If a minister of the gospel is dishonest, it does no practical harm until he is found out, but if a physician is dishonest, the vista of his pathway looking backward shows life-wreckage, horrible to behold. Untimely deaths, broken hearts in despair, undeserved sorrow, unexpected want, blighted prospects, wrinkles from unnecessary suffering, and destroyed confidence in humanity, form the record of his contact with his fellowmen. And the prospects of the future are equally terrible to contemplate. Who can estimate the true worth of an honest physician?

REWARDING DOCTORS.

The question of the recommendation of certain proprietary articles by doctors, the proprietors of which pay a fixed sum to a medical provident society for each bottle sold, is engaging the attention of pharmacists in general, and particularly in the South. M. Labussière states that for each bottle of Vin de Kordia sold, 1s. is handed by Blanc Bernard Plaisance & Cie. to the doctors, and that the Grains de Vals, Afflogol, Somine and other preparations are pushed on the same basis.—*The Chemist and Druggist,* June, 1908.

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ANATOMICAL MEMORANDA FROM BYRON ROBINSON'S NOTE-BOOK.

[Written for the MEDICAL BRIEF.]

1. The proximal mesenteric artery is subject to arterio-sclerosis which diminishes its lumen, and consequently diminishes the quantity of blood transported. The sclerosis hypertrophies the parietes of the vessel, and consequently function (sensation, peristalsis, absorption, secretion) is interfered with, deranged.

2. The jejunal artery, or the trunk of the proximal mesenteric artery, is of interest, (*a*) from its association with gastro-duodenal dilatation, (*b*) from its association with the duodenal jejunal angle, (*c*) from its spirality or torsioned state. The spirality of the proximal mesenteric artery may be an exciting factor; in enteronic volvulus it constitutes ten per cent of volvulus of the tractus intestinalis.

3. "Visceral drainage" is a rational base for therapeutics.

4. The old medical monks called the apex of the renal pyramid the cerebrum benedictum—the blessed sieve, because they thought if the renal pyramidal apex, which consists of some forty apertures, should close, the subject would die. Hence, the blessed sieve—cerebrum benedictum—saved life by sifting the urine through it.

5. When a marble-sized nodule develops in the peripheral margin of a mammary gland, remember it is perhaps an adeno-fibroma, and should be extirpated.

6. The percentage of pulmonary tuberculosis of the tractus intestinalis is difficult to diagnose. However, the last two autopsies which I attended showed primary pulmonary tuberculosis.

7. The "ileo-colic circle" is formed by the bifurcation of the trunk of the jejunal artery into the ileo-colic artery and the ileal artery and their distal anastomosis. The "ileo-colic circle" is a constant structure with a constant location.

8. The ileo-colic circle is a typical *inosculation* circle, which consists of an arc, automatic peripheral ganglia and a peripheral viscus. The object of an inosculation circle is to congest its peripheral viscus.

PARAFFIN SPLINTS IN PROLAPSE OF THE RECTUM IN CHILDREN.

Dr. Kephallinos (*Jahrbuch f. kinderheilkunde*, March, No. 3) advises use of injections of paraffin after the prolapse of the rectum is reduced. Inject on each side, drawing out the needle as the paraffin is injected, leaving a long strip of paraffin in the tissues, forming as it solidifies two straight sticks or splints in the pararectal tissue.

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CORRESPONDENCE.

Opportunity to Medical Men.

TO THE EDITOR:

I wish that some American physicians would come and settle in this part of this country, Department of Huila. There are only three practicing physicians in a population of (300,000) three hundred thousand inhabitants. Medical fees are the highest in the world; they charge from $100 to $1,400 in American gold. The Government repealed the medical law last year, and the country is full of quacks.

In some towns house rent and pasture for the horse is given free of charge to the physicians. There is a place here for twenty doctors and ten dentists. Splendid house rent, with board, can be obtained from $20 to $30 per month. The full fare from New York via Panama to Barranquilla, up the Magdalena River by steamer, by railroad and mule-back to Neiva, the capital of this department, costs from $140 to $180. The Colombian's official money exchange is 10,000%, and all business transactions are done in American gold, which is the money standard of the country.

Thanking you for your kindness, I am, Sincerely yours,

ANIBAL E. DUSSAN, M. D.,
Hato, Huila, Republic of Colombia, South America.

July 21, 1908.

THE BLOOD DIAGNOSIS OF TYPHOID FEVER WITH THE AID OF BILE-AGAR.

Stefansky (*Medizinische Klinik,* June, 1908, Archives of Diagnosis, July, 1908,) uses a culture medium consisting of equal parts of bouillon and ox-gall, with the addition of 2% of agar, 1% of peptone, and 0.5% sodium chloride. This is put into test-tubes, 15 c.c. in each. The blood (3 c.c.), is taken from the vein of the arm with a hypodermic syringe. It is put into two test-tubes with the nutrient medium, and after shaking, it is poured into Petri dishes. This dilutes the blood five times with the nutrient medium. This gave the following results: Out of twenty-three cases examined altogether, a growth of the typhoid bacillus was obtained in 82% ; that is, in nineteen cases, while paratyphoid was not found at all. The proportion of positive results is the higher the earlier the blood is obtained. The majority of the cases were examined in the second week, and in 87% the typhoid bacillus was found at this time. In one of three cases examined in the third week of the disease, the typhoid bacillus was found. In one of two cases of recurrent typhoid, growth was obtained. On the plates the typhoid colony appears as a black point, which assumes the form of a lentil after the fifteenth or sixteenth hour. The beginning of the growth occurs after the twelfth hour; after the sixteenth hour, the colonies are large enough to be utilized in the agglutination test. Thus a definite diagnosis of typhoid may be made in one day's time. Besides the lentiliform colonies, larger colonies are found on the plates, colonies which in two days may occupy half the space of a Petri dish. From these "giant" colonies, typhoid bacilli of extraordinary motility manifest themselves.

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THE following dialogue and drawing, taken from a recent issue of the famous cartoon publication *Simplicissimus*, will give our readers an idea of the German funny man's conception of the advantages (?) of membership in the Krankenkasse, or what might be called in English, the fifty-cents-a-month sick benefit society, an institution yet in embryo in America, but having on its enrollment most of the middle and lower classes of citizens of Germany.

"THE EXPERIMENTAL ANIMAL."

"Yes, Doctor, I consider operative interference upon such a case rather hazardous. What do you say of trying the operation first upon some member of our Sick Benefit Society (Krankenkassen-Mitglied)."

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CURRENT MEDICAL LITERATURE.

Appendicitis: Extra Significance of Left-Side Pain.

John F. Erdmann (Archives of Diagnosis, Vol. I, No. 3, 1908), again calls attention to a sign in appendicitis which is met with frequently in children, not so frequently in adults, namely, pain in the *left* lower quadrant of the abdomen. For over five years Erdmann has been directing attention to the fact that pain in the lower quadrant, with evident tenderness, pain and resistance in the right quadrant—appendicitis, in other words—and without any marked evidence of abdominal distention, signifies free fluid in the pelvic cavity, varying in character from a serous to a sero-purulent or purulent nature, although the appendix and abscess, if present, is walled off. He states that he does not know of a single occasion of this diagnostic fact being absent, under this state of affairs, during this time. He makes this statement with the understanding that he means by fluid in excess, not the ordinary amount of peritoneal fluid that one usually finds in the pelvis, but a quantity in excess of the normal, measurable in ounces or half-pints.

This symptom, which is an early precursor of general peritonitis, aids in prognosis, and gives more definite reason for demanding emergency operative interference. This sign must not be confused with Blumberg's, in which the pain is increased on releasing the palpating hand; in this sign the pain is evidenced upon pressure.

The Dangers of Calmette's Ophthalmo-Reaction.

T. Harrison Butler (*British Medical Journal*, August 8, 1908) issues a note of warning concerning the indiscriminate use of the Calmette reaction for tuberculosis. He reports a case where, on March 5th, a female child, aged four years, suffering from a supposed tuberculous disease of the ankle, had instilled into the right eye one drop of 0.5% solution of Calmette's tuberculin. No change appearing, on March 9th the instillation was repeated with a 1% solution. Profuse discharge with photophobia followed, then there appeared, early in April, an elongated phlyctenule at the outer aspect of the corneo-scleral margin. This was later surrounded by a patch of interstitial keratitis, developing finally an ulcer which was obstinate, and very slowly cleared up, leaving a small central nebula. In other words, as a result of the instillation of tuberculin, a typically tuberculous process was set up in a perfectly healthy eye, and the central nebula will considerably reduce the visual acuity of that eye. Considering, moreover, that the test is at times deceptive, and is apparently

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very dangerous, the writer has given up its use, and follows out the procedure instead of injection of old tuberculin, which appears satisfactory and devoid of this danger.

A Critical Resume of the Newer Methods in the Diagnosis of the Functions of the Kidney.

Kingman B. Page (Archives of Diagnosis, Vol. I, No. 3, 1908) considers the various methods by which we try to determine the efficiency and functionating power of the kidneys. He states that while valuable information may be obtained from a chemical analysis of the mixed urine as it passes *per urethram,* still this kind of an examination must be supplemented by other tests and methods, if one wishes to get an exact idea of the character of the urine as it flows from each kidney. This, of necessity, can only be obtained by intra-vesical instrumentation, either with a segregator or a catheterizing cystoscope.

Nitze was the pathfinder in the cystoscope field, and since his original contribution the number of cystoscopes that have been devised is perfectly bewildering to one about to investigate this subject. They are all, however, merely minor variations of the same general principle, modified to suit individual taste. Practically there are but two general forms, that designed on the plans of Nitze (European type) and that of Tilden Brown (American type). The essential parts of a cystocope consist of a lamp or source of illumination and the telescope or visual apparatus. The Nitze cystoscope consists of a lamp, with a telescope, fitted with various lenses by which one is enabled to look over the bladder field thoroughly. Channels are introduced into the tube, allowing the in-and-out flow of the bladder medium or the passage of small catheters for the catheterization of the ureters, or the passage of cauteries, snares, forceps, etc., for the performance of intra-vesical operations under control of the eye.

With this instrument urine from each kidney may be collected and studied separately. At the same time the condition of the entire interior of the bladder may be ascertained. Moreover, the possibility of supernumerary ureters and anatomical variations of the kidney may be definitely determined.

It would be of prime importance to be able, in given cases, to determine the efficiency of the kidney in relation to catabolism in general. Yet this can not be done. We can not determine the amount of nitrogen taken into the body as a general proposition, save in individual cases, and so the estimation of the amount of urea and other products of catabolism offers no information. Besides, as Heinrich Stern has made out, the constituents of the urine, especially those of nitrogenous character, do not represent the intake of the previous twenty-four hours, but from a much

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longer period prior to that time. Nor is the nitrogen eliminated by the urine alone, but also by other excretions of the body.

It would be valuable information to know the functional efficiency of each kidney separately, but we can not determine this. We have ascertained that two kidneys work synchronously, so that the collection of urine from each kidney over, say one hour of time, ought to yield on analysis the same chemical results, but this is only a comparison of the efficiency of the kidneys towards each other, not in relation to the general bodily efficiency.

Again, we would be making a distinct advance in diagnosis were we able to determine the ability of one kidney to compensate for the insufficiency of the other, but this we can not do.

Cryoscopy was thought at first to be the long-looked-for means of determination of the efficiency of the kidneys, but an exhaustive analysis of this new adjunct to diagnosis shows that cryoscopy only affords us an accurate and simple means of determining relative efficiency as a comparative method in the examination of the separated urines.

Electrical conductivity, a method borrowed from the physical laboratory, being the reciprocal of the resistance which a certain quantity of fluid, between two platinum electrodes of given size and given instance apart, offers to the passage of an electric current of known strength, is purely in the experimental stage as a means of determination of the efficiency of kidneys.

The introduction of tests of the elimination or permeability to certain known substances into urological diagnosis has also been barren of definite results. Such substances are methylene blue, introduced by Achard and Castaigne; indigo carmine and salicylic acid. Tests of the chemical activity of the kidneys by introducing substances into the stomach and observation of the presence of new substances from these as they appear in the urine has also been devoid of practical results. Reference is here made to the use of benzoic acid and the observation of its conversion into hippuric acid in the urine; of the use of phloridzin and the presence or absence of glycosuria afterwards, etc.

From all these tests and observations it can be concluded that the various methods for determination of the functional diagnosis of the kidney have failed. They are of limited value, less so to the internist than to the surgeon. To the surgeon, by their use, particularly in the separated urines, information of more value may be gained, but even then the knowledge gained is only comparative, not absolute. They are steps in advance, however, and their judicious employment and continued study in this line of investigation will, no doubt, in time lead to the development of simpler and more accurate methods. The study of meta-

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bolism and the excretion of its "end products" is as yet in its infancy, and though today we are in the dark, the light may come with the morrow.

Hematuria, with Report of Cases.

Granville MacGowan (*The American Journal of Urology*, Vol. IV, No. 6, 1908), takes up the question of blood appearing in urine, and showed by the reports of a number of cases just how rules can be formulated fastening the bleeding upon one or another part of the genito-urinary tract, with exceptions which are strikingly significant as demonstrating the impossibility of following our rules on this point. By the agency of urethroscopes and cystoscopes of various patterns, the urethra, bladder, ureters and pelves of kidneys may now be viewed under electric light, and much of the guessing that was formerly in vogue concerning the diagnosis of bleeding points is easily done away with. The old rules concerning the diagnosis of bleeding from the color of the blood, the size and shape of the clot, the chemical analysis of the urine, whether the blood precedes, is mixed with or follows the urinary stream, etc., etc., have been so frequently shown to be false and misleading guides that they are no longer used by good diagnosticians.

When blood appears at the meatus in intervals of urination, the source of the hemorrhage is nearly always in front of the deep transverse perineal muscles, but there are frequent exceptions to this rule.

When the blood suddenly appears at or towards the end of urination in a previously clear stream, it is reasonable to trace its origin, either in the bladder or close to the outlet, or within the prostatic urethra, or from the prostate. It is often of importance that this should be determined, and it can only be accurately determined by means of an instrument through which we can see; for sometimes, in a typical condition of this sort, the blood comes altogether from points anterior to the membranous urethra.

Often, in moderate hemorrhage from a kidney, at intervals the blood coagulates in the ureter, and lies there long enough to become partially fibrinated before it is dislodged, causing the appearance of long, thin fish-worm-like clots in the urine. Yet the writer has seen similar clots occur in slow hemorrhage from a villous growth in the bladder near the ureteral orifices, where the jets of urine projected steadily against the bleeding point caused the clot to wave back and forth in the urine, like kelp in the rise and fall of the tide. He has also seen the same kind of clots produced in this manner: slow hemorrhage from an over-large, congested or ulcerated verumontanum, which blocked up the natural free passage from the prostatic urethra to the bladder, prevented the flow of the effused blood into that viscus, and hindered any forceful outflow of urine at the time of emptying the bladder.

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The seat of the hemorrhage in any case may be the anterior urethra; the posterior urethra and prostate, seminal vesicles, bladder, ureters or kidneys. Hemorrhage from the anterior urethra may arise from mechanical injury, gonorrhea, stricture, warty growths, tuberculous ulcers. Hemorrhage from the posterior urethra may arise from enlarged or inflamed verumontanum, posterior urethritis, or inflammation of the prostate or seminal vesicles. The inflammation of the prostate may be gonorrheal, tuberculous, mixed infections or syphilitic (gumma). The seminal vesiculitis may be cancerous, due to mechanical violence or stone. Hemorrhage from the bladder may arise from cystitis, usually trigonal; edema of the bladder neck and interureteral fold, ulceration of projecting adenoma of the prostate; non-malignant, stone, tuberculous ulceration; simple ulcer, patchy gonorrheal cystitis, telangiectasis of the posterior slope between the vesical outlet and the ureteral openings; new growths, simple and malignant; bilharzia; mechanical violence, frequently from sounding.

Hemorrhage from the kidney may be from tuberculosis, essential or without appreciable cause; nephritis, violence, stone; sometimes in the form of uratic or oxalate showers, malignant growths, papilloma, angiomatous degeneration of a papilloma, disease of the adrenal, movable kidney.

Or hemorrhage may arise solely from diet, drugs, hemophilia, or degeneration of the blood due to disease, as in variola, typhoid and malaria.

Hemorrhage from the ureters may come from the presence of stone, new growths or tuberculosis.

The writer then illustrated these different locations and causes of hemorrhages by well-selected cases. He is insistent upon the point that the treatment of practically every form of hematuria thus met with is surgical, but rest and the absolute prohibition of alcohol is essential in the treatment. Morphine and ergot, adrenal body extracts, etc., should also be used.

HOUSE FLIES AND TYPHOID FEVER.

Dr. Marshall Philip, says the *Ceylon Observer,* attributes the high mortality from enteric in Colombo during March to a considerable extent to the bad plague of house flies which existed in February last. "The guilt of the fly in disseminating disease germs is not merely a supposition; it has been proved by actual experiments, and Dr. H. H. Riddle, M. B., (Camb.), is responsible for the statement that a single member of the species can carry enough bacteria to devastate an army. Under the microscope, over 100,000 bacteria have been counted on the legs and mouth of a single fly! The human instinct of self-preservation should therefore lead householders to declare war upon the pest."—*Indian Public Health,* July, 1908.

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EDITORIAL

THE BACTERIOLOGY OF THE PUERPERAL UTERUS.

The germ content of the uterus has been controversial ground for many years. Ever since Doederlein in 1887 made the statement that bacteria are not found in the lochial discharge in normal cases, many investigators have endeavored to show that he was in error, and that pathogenic bacteria are often present in the puerperal uterus without symptoms, and that Doederlein's observations were faulty. They have tried to back up these opposing statements by bacteriological investigations showing that various pathogenic bacteria are found in normal cases, often without producing any untoward symptoms. Doederlein's original conclusions on this point were as follows: (1) In normal cases the uterine lochia is sterile; (2) micro-organisms are almost always found in severe cases of puerperal infection; (3) infection is not always due to lack of care on the part of the physician. Von Ott and Czerniewski, in 1888, one year after Doederlein, arrived at the same conclusion, but the latter held that the streptococcus might be present in the lochia of normal cases in rare instances without symptoms. Since that time the ground has been fought over again and again, with victory now perched on the banners of the followers of the Doederlein theory, now perched upon the standards of the opponents of Doederlein.

But recently a most important contribution has been made upon this debated question. Nicholson and Evans, writing in the August issue of *The American Journal of the Medical Sciences,* show, through a carefully conducted series of observations upon the bacterial content of the puerperal uterus, what appears to be the exact facts of the case. They demonstrate in first order that many of the observations that have been made on this question have a most serious source of error, *i. e.,* contamination of the cultures as the material is taken from the uterus. In order to obviate this disadvantage, they took their cultures through a specially curved cervical speculum, the distal end of which was fitted with a hinged cap, which could be opened after the instrument was *in situ,* and closed again after the culture material was taken into the receptacle in the speculum, thus protecting the material from subsequent contamination as it was drawn through the cervix and vagina. In addition to this, danger of outside contamination was done away with by washing off the tube containing the uterine material with a bichloride solution and then breaking the ends, pouring the contents directly into a sterile Petri dish. Cultures were made from this upon agar-agar stroke plates; glycerin agar

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stroke plates; serum agar stroke plates; bouillon tubes; litmus milk tubes from anerobic cultures by Wright's method; glucose agar for anerobic cultures. In addition, cover-slip preparations were made, two being stained with Loeffler's stain and two with Gram's stain.

With regard to the value of the intra-uterine culture as an aid to diagnosis, these two observers think that it is valuable in a routine study of infected cases, at least in institutions which have the advantage of a well-equipped laboratory of bacteriology. They do not desire to be understood, however, as taking the stand that the method is, as was formerly thought, a sovereign means of diagnosticating the presence or absence of infection in all cases. They feel satisfied, however, in making this statement as a result of their investigations: if both blood and uterine cultures are negative, the temperature in a given case is due to some intercurrent condition; if the intra-uterine condition is positive, but the blood culture negative, the infection ought to be considered local in its manifestations; and thirdly, if the intra-uterine culture is negative but the blood culture is positive—a very unusual condition—one should be justified in concluding that the case is one of general infection, the local endometrial condition having been made sterile either from the first or having become so gradually after the general infection developed.

On the whole, they consider that their observations and bacteriological tests warrant them in believing that the uterine lochia in normal cases is sterile throughout the puerperium, and that streptococci are never present in the cavum uteri without causing symptoms. This is a most important observation, and seems to be firmly backed up by the exactness of the scientific research made by Nicholson and Evans. They admit that in a few cases non-pathogenic germs may be found in cultures in afebrile cases, but there is every reason to believe that their presence is really the result either of contamination during the extraction of the lochia or of their introduction during obstetric manipulation. It also seems firmly established as a result of these tests that ascendance of the gonococcus is an event of comparative rarity, though the frequency of this organism would of itself give reason to expect otherwise.

While it is true that a study of the bacterial content of the puerperal uterus is of great importance as a subsidiary means of diagnosing septic infection following delivery, the writers issue a note of warning against the indiscriminate culturing of the uterus because infection of the endometrium is an ever-present danger in culturing within a few days of delivery. This is to be borne in mind in so far as the overly-enthusiastic scientist may be led to take up this bacteriological work to the detriment of the health of the patient. Extreme caution should be exercised, therefore, in this regard. Possibly, now that this exhaustive investigation seems so conclusively to have given the profession the exact status of the

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bacterial content of the puerperal uterus, future work may be reserved entirely for diagnostic purposes and not for mere scientific investigation.

THE CONSEQUENCES OF EXTREME MEDICAL LEGISLATION.

In an editorial in our August issue, criticising the A. M. A. leaders for their political activity and for their efforts to secure extreme and unreasonable medical legislation, we said that their conduct in this respect would ultimately engender a general distrust in the minds of the public against physicians as a class, and that the people, holding the entire medical profession responsible for the arrogance of a few, would compel the enactment of legislation of so reactionary a nature as to make even just and salutary medical regulation an impossibility, if, indeed, it did not lead to the repeal of all such laws as are at present on the statute books, leaving the profession with no protection at all.

We had forgotten, when we wrote the editorial in question, that a consummation exactly such as we described had actually come to pass in Germany. That country, as everyone knows, has gone far ahead of any other civilized nation in its efforts at state regulation. The physicians, taking advantage of this paternalistic spirit, gradually secured very restrictive medical laws. Most of this legislation was probably just such as ought to have been passed for the benefit of the profession and the protection of the public; but the physicians there eventually became so filled with the spirit of caste and were so arrogant in their demands for further privileges, that the German people, accustomed though they are to obey implicitly the mandates of a government upon which they look as occupying almost a parental attitude toward them, arose in vehement protest, with the result that, finally, all laws of every description protecting the practice of medicine were wiped from the statute books.

The conditions consequent upon this radical policy are described in an article published in the *British Medical Journal* of July 18, entitled "Quackery in Germany." From that article we quote as follows:

> "The repeal of the old laws which prohibited the practice of medicine by any other than regularly educated practitioners has been followed in Germany by an enormous development of the most barefaced and ignorant quackery, and we have drawn attention to the dangers and difficulties which have resulted from this retrograde legislation on several occasions. (See *Journal*, 1903, Vol. II. p. 163, and 1906, Vol. I, pp. 1348, 1410, 1470 and 1538). It is well known that the influence which led to the alteration of the law was the success of hydropaths, like Priessnitz, who was a simple peasant, and of other founders of so-called "Natural" system of curing diseases, who were equally destitute of any claim to regular medical or scientific training. They secured so large an amount of popular support, and it is fair to say their methods were on the whole productive of so much benefit to the sick, that the attempt to enforce the law was abandoned, and although in Austria, the home of hydropathy, its letter remains the same, in North Germany repeal was the only logical result of the popular determination to en-

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> courage the development of therapeutic means which had arisen independently of the regular practitioners of medicine. While there is probably no intention, and certainly little hope, of reverting to the former state of things, a large and influential party in Germany is agitating for such a modification of the law as will afford some check to quackery in its more pernicious forms, and protect the ignorant against the machinations of swindlers. A practical point arises in connection with the enforcement of legislation for the medical inspection of school children, who, if suffering from some ailments requiring proper medical treatment, are often taken by their parents to quacks. The inspectors endeavor to prevent this by serving the parents with notices to take the child to a doctor (arzt), but a correspondent tells us that in Holstein there is a notorious example of quackery in the case of an old shepherd who cures persons at the rate of five marks a head simply by placing his hands on their chests, and who 'treats' persons at a distance on receipt of a few hairs cut from their heads."

The adoption of such a movement as that proposed by Dr. Reed and embodied in his candidacy for the Senate would, in our opinion, ultimately lead to just such a denouement as that above described. The laws that govern human events and human processes are the same everywhere. There is every reason to believe that the people of this country, impatient of governmental interference as they are, would be even quicker to resent what they would consider legislative exploitation in the interests of the medical profession than the German people have shown themselves to be; and let them once be convinced that they are being imposed upon; let the legislative policies of the A. M. A. leaders be carried to the extreme to which it is sought to carry them, and the American people will show no more discrimination than did their cousins across the sea, but will lose faith in, and punish, the whole medical profession for the overbearing and arbitrary conduct of the bureaucracy.

The experiences of their German brethren should serve as a warning to the physicians of this country not to support the A. M. A. extremists in their demands for further medical legislation, but to be satisfied with the laws as they now are, since, if properly enforced, they afford ample protection for the legitimate practice of medicine. It will not be sufficient, either, simply to withhold active support from them. They must be openly and publicly opposed. The people must be taught that these extremists do not represent the medical profession; that they have no right to speak for anybody but themselves; that the laws they are seeking are not in the interests of the public health, but simply to give themselves absolute control over the practice of medicine and to enable them to dictate the terms upon which physicians shall practice their profession—indeed, to say whether they shall practice at all, or not.

No better evidence of this design on their part is needed than the proposition which was recently put forth to compel by law every physician to come up before the Board of Medical Examiners every five years and submit to a re-examination. Now, everyone knows that a requirement of the kind could serve no useful purpose, so far as the public or the sci-

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ence of medicine is concerned. A student, fresh from his text-books and his classes, is able to pass an examination, but he knows nothing of actual practice. After an experience of five years the text-book information may have vanished from his mind, but he will certainly know something about diagnosis and the treatment of disease. To force such a practitioner, therefore, to appear before a board and to answer to its satisfaction all such questions as its members may chose to propound, before he is permitted to continue in his profession, is as absurd as it is unjust. When it is remembered that the decisions of the Board of Examiners in these matters are absolute, and that from their conclusions there is no appeal, and when the growing arrogance of the A. M. A. clique, to which these examiners belong, is taken into consideration, we think it is but the part of caution to oppose any attempt on their part to increase their powers, and to look with suspicion upon almost anything which they may propose.

This is only one of the many extreme measures which it is proposed to enact into law for the ostensible benefit of the profession, and we mention it merely to show to what extremes these men have gone, and the dangers to which physicians as a class are threatened if they are allowed to continue unchecked in their arrogant course.

A PERVERSION OF THE JOURNALISTIC FUNCTION.

We are not interested in any personal quarrel between Dr. W. C. Abbott and the A. M. A. officials, nor, specially, in the medical products of the Abbott Alkaloidal Co. Our personal acquaintance with the former consists of one casual meeting, and we have not as yet had occasion to use his remedies. But we believe that a pamphlet he has recently issued, defending himself against the malignant assaults made on him and his house in the columns of the *Journal of the A. M. A.*, should be placed in the hands of every physician in the land, and particularly in the hands of all members of the American Medical Association, that they may know the policies which control the conduct of the organ of the greatest medical association in the world. We do not believe that any fair-minded man, no matter how he may regard Dr. Abbott and his products, can lay this pamphlet aside without being convinced that there has been a prostitution of the journalistic function in these personal attacks, and that the editorship of a great paper like the *Journal of the A. M. A.* carries with it powers and responsibilities too vast to be entrusted to the hands that now direct and control it, and that the sooner a man is placed in the position who is above descending to personality, who has no enemies to punish, and who possesses a fair and judicial mind, the better it will be for the paper and the profession of medicine.

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It is the right, aye, it is the duty, of all medical editors to expose fraud and to prevent, if possible, any imposition upon their readers. It is a duty higher even than any they can owe to their subscribers, for it resolves itself into a question of humanity. No more despicable a character can be imagined than the man who attempts to foist a fraudulent medicine upon the profession. He not only strikes at the foundations of medical science, but makes traffic in human life. But it will, we think, require something more than mere altruistic pretensions to convince unprejudiced physicians that behind the Abbott attack and some others of a similar character on American manufacturers, which have appeared in the *Journal of the American Medical Association* during the past two or three years, that there was no other motive or influence than a just and an intelligent regard for medical science and love of humanity. It can not be that all American manufacturers, except a few apparent pets of the organization officials, are engaged in quackery and fraud, while practically all the European medical manufacturers doing business in this country are honorable, and their products ethical. Surely, in other matters the American standard of morality is as high as that of any other nation, and we shall not believe, except upon absolute proof, that when a citizen of this country goes into the medicine business he immediately throws off all moral restraint and enters upon a career of fraud. It ought, therefore, to be plain to any one that, even if philanthropic purpose has dictated all these attacks, there must exist in the minds of those who make them so strong a European prejudice as to render it impossible for them to be fair and safe advisers of American physicians.

The Abbott case, as we have said, is only one of many attacks of this character that have been made, though it gives greater evidence of personal feeling and malignity than have appeared in any previous assault. Indeed, the reader can not fail to note how careful its authors were not to make any specific and direct charges, such as, if untrue, would furnish the basis for a libel suit, but that they indulged mainly in inuendo and insinuation, all worded in such a crafty manner that it might well be imagined that the whole article was submitted before publication to some shrewd, technical lawyer, with instructions to eliminate therefrom everything that might bring responsibility to its authors and at the same time to add point and sharpness to all aspersions and insinuations contained therein as were not actionable at law. The present assault, therefore, is less calculated to deceive the profession or to injure the victim at whom it was directed than some that have preceded it; but it is not less reprehensible on that account, and we do not believe any censure too great to be visited upon those who are responsible for it.

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INTERNATIONAL CONGRESS OF TUBERCULOSIS.

The International Congress of Tuberculosis, now meeting in Washington, D. C., from September 21 to October 12, 1908, marks another triennial gathering of that body. The last Congress was held in Paris in 1905. The present Congress is being participated in by all who have shown an interest in the tuberculosis-prevention-and-treatment-propaganda. This meeting represents a gathering of the foremost workers of the civilized world on this question. There is no phase of the tuberculosis problem that has been overlooked in the exhibition of model sanatoria, hospitals, etc., that constitutes the work of the first week of the meeting. The second week will be occupied in the reading of technical papers before seven sections of the Congress. In our November issue we will give a complete description of the work of this Congress, with comments on the most important papers and discussions.

THE UNITED STATES PHARMACOPEIA.

In a paper read at the 1907 meeting of the A. M. A., Dr. R. A. Hatcher, of New York, had the following to say about the United States Pharmacopeia: "The Pharmacopeia was called into being by physicians in 1820, and in 1850 pharmacists were admitted to the convention; since then physicians have gradually relinquished control to pharmacists, and today we are confronted with an anomalous condition, in that the committee of revision of 1900, consisting of twenty-five men, numbered nineteen pharmacists or men identified with pharmaceutic institutions, and but six whose interests were entirely with medicine. For example, Dr. Squibb was almost universally known as a manufacturing pharmacist. Only ten members of the committee of revision had the title of M. D. This condition is not creditable to the medical profession, for it is obviously not the province of pharmacists to decide for physicians what remedies they are to use.

"Less than half the States had medical delegates accredited to the pharmacopeial convention in 1900. Six States named pharmaceutical, but no medical, delegates. Ohio had three medical delegates and New Jersey had one accredited, but not one from either State attended the convention. Besides these two great States and many of less importance, Iowa, Virginia and North Carolina were wholly without medical representation in that convention, and the following States each had but a single medical delegate: Missouri and Indiana, the fifth and sixth States in the Union in population and importance (Dr. Whelpley's interests are mainly pharmaceutical), Georgia, Minnesota, Connecticut, Nebraska, Kentucky, Tennessee and Wisconsin.

"In contrast with this showing it may be mentioned that the pharmaceutical organizations of New York named twenty delegates and those of Ohio named fifteen. From these figures one may gain some idea of the preponderance of pharmaceutical over medical influence in that convention."

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BOOK NOTICES.

CHICAGO MEDICAL DIRECTORY. Containing a List of Physicians and Surgeons in Chicago Medical Schools, Hospitals and Sanitariums, with Their Respective Faculties and Medical Staffs. Physicians' and Druggists' Street Directory, Numerically Arranged. 1908. McDonough & Company, Publishers, 79 Dearborn Street, Chicago. Price, $3.50.

This seems to be a very complete edition of the names and locations of physicians and hospitals of Chicago. It will be found useful for those who have occasion to correspond with Chicago physicians, or who want information about the Chicago medical schools or hospitals.

DIAGNOSIS BY THE URINE, or the Practical Examination of Urine with Special Reference to Diagnosis.—By Allard Memminger, M. D., Professor of Chemistry and Hygiene and Clinical Professor of Urinary Diagnosis in the Medical College of the State of South Carolina, etc., etc. Third Edition, Enlarged and Revised. With Twenty-seven illustrations. Philadelphia: P. Blakiston's Son & Co., 1012 Walnut Street. 1908. Price, $1.00.

This little book of some hundred odd pages, is designed as a working manual for the student or practitioner in making urinary analyses. It gives the method of determination of the various changes which take place in the urine. It is illustrated in so far as it shows cuts of the principal organic material that may be found in urine. It is simple and yet quite complete. It gives a printed form for showing a complete urinary analysis. We can recommend the book to those who want such help.

CONSUMPTION. ITS PREVENTION AND CURE WITHOUT MEDICINE, WITH CHAPTERS ON SANITATION AND PREVENTION OF OTHER DISEASES.—By Chas. H. Stanley Davis, M. D., Ph. D., Member of the New Haven County Medical Society; Connecticut State Medical Society; American Health League; Author of "How to Succeed as a Physician," and other works. Second edition enlarged. New York: E. B. Treat & Company, 1908. Price, $1.00.

This little work on tuberculosis is designed to show how much can be accomplished in the cure of this disease by following out hygienic measures, and how little can be accomplished by the use of drugs. It gives in interesting form an account of the sanatorium and open-air treatment of tuberculosis, and discusses the hygiene of the home and surroundings of the tuberculous patient. The book represents a fair review of the ideas of those *en rapport* with tuberculosis and its modern treatment.

A PRACTICAL GUIDE TO THE EXAMINATION OF THE EAR.—By Selden Spencer, A. B., M. D., Instructor in Otology in Washington University; Aural Surgeon to the Martha Parsons Free Hospital for Children. With an Introductory Chapter by H. N. Spencer, M. D., LL. D., Professor of Otology in Washington University. C. V. Mosby Medical Book and Publishing Company: St. Louis, 1908.

This is a little manual of some sixty odd reading pages. It is written primarily for the students of medicine as a guide in their work in otology. It goes into the subject of diagnosis and treatment of otological diseases from the simplest standpoint. It aims "to break in" the beginner in the technique and manipulation of those instruments essential for the proper diaagnosis and medication of aural disorders that are accessible to treatment. It occupies, therefore, a most unique place in medical literature, taking, as it were, the essentials of the rather strictly recognized specialty of otology, and giving them to the student and practitioner as valuable factors in enabling him to grasp the fundamentals of this specialty. The perusal of this little guide will not make an otological specialist of one. Oh, no! that is a matter of some extended study and experience. But it will give you a good idea of how best you can search the commonly considered "hidden mysteries" of the external auditory canal, the middle ear and the internal ear, search them with safety to the patient with the good chance of learning how to administer the proper treatment so that you may bring your ear-patient back to recovery. For those who really want to specialize in otology, it goes without saying that consultation of the large text-books and post-graduate study are essential. But to be prepared while treating a general case, say one of the acute exanthemata, which produce so many otologic disturbances, to deal quickly and skilfully with an ear complication, we can not recommend this little work too highly.

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CLINICAL NOTES.

ANTIKAMNIA CHEMICAL COMPANY IN NEW QUARTERS.

Construction will be begun on September 1 by the Antikamnia Chemical Company of a modern new five-story building on the northeastern corner of Pine and Fourteenth streets, St. Louis. The change will be made from the present commodious quarters on account of the need for much larger floor and manufacturing space, due to the constantly-growing business. The upper floors of the new building will be used for a can and box factory. We wish the company success in their new location.

THE LATEST IN A RECLINING ROLLER CHAIR.

Physicians who have crippled or convalescent patients naturally want to keep them out in the open air and sunshine as much as possible, and the best means of enabling them to get the benefit of these health-restoring elements is to prescribe an Erlebach Reclining Roller Chair. Physicians, not usually being familiar with mechanical things, do not realize the difference in the construction of reclining chairs, and so, often, they simply recommend a chair without specifying any particular make. Of course, if they would stop to think, they would realize that this is a mistake, for it is just as impossible for all manufacturers to produce reclining chairs of equally good mechanical construction as for all doctors to be equally skillful in the practice of medicine. The Erlebach chair is decidedly the best one on the market. The back, seat and leg-rest are fitted with veneer, or the finest open cane webbing. The reclining attachment is the simplest of any in use. The chair is so balanced that by simply bringing a little pressure to bear against the back, the occupant can assume any desired position with ease and without outside assistance. The connections are all of malleable iron, while the axles are of the best grade of steel. The wheels are steel suspension cushion or pneumatic tires, and are fitted with hand rims. By means of this rim the occupant is enabled to propel the chair any distance without exertion and without soiling the hands by contact with the tires. All iron parts are enameled and nicely decorated. With ordinary care this chair will last a lifetime. This chair has been adopted for use in some of the best equipped hospitals in the country. The manufacturer says: "We have the most complete assortment of invalid chairs on the market, and are manufacturers of the only invalid tricycle in the world. Write for catalogue and prices to H. F. Erlebach, Hammond, Ind.

PHILADELPHIA PHARMACY COLLEGE GIVES DEGREES.

For the first time in several years in this city the degree of Master of Pharmacy was conferred upon five distinguished men from different sections of the United States, who have attained distinction in the art of preparing medicines and drugs. Those who received this honor were Samuel W. Fairchild, of New York; Horatio Nelson Frasier, of New York; John F. Hancock, of Baltimore; S. A. D. Sheppard, of Boston,

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3d. IT IS SAFE AND RELIABLE. No impurities are being injected when using Dr. R. B. Waite's Antiseptic Local Anæsthetic. Our guarantee of absolute PURITY is your protection.

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Dr. I. N. Cohen, of LaCrosse, Wis., under date of March 19, 1908, writes:

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., NOVEMBER, 1908. NO. 11.

THE SIXTH INTERNATIONAL CONGRESS ON TUBERCULOSIS.

BY R. B. H. GRADWOHL, M. D., St. Louis, Mo.
Editor of the MEDICAL BRIEF.

Pasteur said: "*It is in the power of man to cause all parasitic diseases to disappear from the world.*"

[Written for the MEDICAL BRIEF.]

The sixth triennial meeting of the International Congress on Tuberculosis occurred in the city of Washington, D. C., from September 21 to October 12, 1908. The Congress met in this country upon the invitation of the National Association for the Prevention of Tuberculosis. The Congress was participated in by representatives of thirty-three foreign countries, the only important absentee from the meeting being Japan. The United States was well represented by official delegates from nearly all the States, by delegates from most of the cities and municipal, State and government health departments, and by many other persons, medical and lay, who have been earnest workers in the tuberculosis prevention and cure propaganda.

The meeting was held in the new National Museum, the structure which is to house the present contents of the Smithsonian Institution. This building was sufficiently roomy for this meeting, but its half-finished condition was hardly calculated to enhance the value of the spoken proceedings, owing to the poor acoustics of the several rather hastily-constructed assembly rooms, and owing also to the fact that the artisans working on the building did not see fit to stop their labors during the most important deliberations of this body. In short, the quarters were bad, and hampered in no inconsiderable way the great good that would have been otherwise accomplished here by the delegates had physical conditions been better. As it was, in spite of adverse conditions far-reaching results will be attained by this Congress.

The Congress consisted of the department of exhibits, and, secondly, the department of section meetings for the reading and the formal discussion of papers. The first part, the "exhibition" on tuberculosis, was installed in the corridors of the National Museum. These exhibits represented just what is being done in all the participating countries in fighting the great White Plague. The exhibits were comprehensive and displayed wonderful ingenuity on the part of the organizations which arranged them.

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They depicted what is being done by research work on tuberculosis. They showed, by a profusion of statistical maps, the alarming prevalence of tuberculosis in the crowded centers of population, the slums of our great cities. Pictorial demonstrations of the manner and method of transmission of the disease covered the walls. Models of tuberculosis sanatoria were there in plenty. Special tents for sleeping outdoors were displayed. The Nathan Strauss pasteurizing system was well-illustrated by a complete pasteurizing plant in full operation—an exhibition that even included dispensing of the pasteurized milk to those who cared to "take a drink." The various nurses' associations that have been active in fighting tuberculosis in cities, gave exhibits of actual rooms in the quarters of the poor, showing, on the other hand, the condition of a room before the visit of a nurse, and, on the other hand, the improved state of things after the visit of the trained attendant. There were many very attractive pathological specimens, showing the lesions of tuberculosis in all parts of the bodies of both man and cattle. There were very interesting X-ray plates, showing the shadows in the lungs of the tuberculous, and depicting just exactly how much information one can obtain in this way as to the extent of tuberculous foci in lungs. That the X-ray photograph, when properly interpreted, is a valuable supplemental or corroborative aid to early diagnosis of pulmonary tuberculosis was clearly proven by these plates.

Possibly the best tent exhibited at this Congress was that shown in the exhibit of the International Typographical Union, the only labor organization in the world which maintains a tuberculosis sanatorium. This tent was a circular affair, with a special top for ventilating, and curtains that could be pulled aside to allow the entrance of fresh air and sunlight. In addition to the Home and Tuberculosis Sanatorium maintained at Colorado Springs by this union, *The Typographical Journal,* the official organ of the International Typographical Union, informs its membership each month of the progress that is being made in the prevention, treatment and cure of tuberculosis, and the editors are diligent in searching for the latest and most approved thought on this subject. This journal reaches fifty thousand members, and the information is thus disseminated over a wide field. This plan of tuberculosis education is certainly very creditable to the union, and could well be emulated by other labor organizations. The mortality is heavy among printers, and their organization is trying to cut it down. In addition, they are insisting upon hygienic quarters in which to carry on their daily occupation, a position which is well taken, as was crystallized in the latest report of their President, Mr. James M. Lynch, to wit: "We are justified, from every standpoint, in demanding that the employer shall do his share in stamping out tuberculosis."

There was a complete "dairy" exhibit, showing a number of cows properly housed in sanitary stables, and the process of clean milking was actually demonstrated every day for the benefit of the Congressists. An

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interesting exhibit of the United States Government Printing Office showed the method of handling and cleaning cuspidors in that institution, using long pairs of forceps for picking up these cuspidors, also a cleaning trough for cuspidors; a one to five thousand solution of bichloride of mercury was placed in each cuspidor. The exhibit of the tuberculosis workers of New York City deserves special mention. It showed that by research, by education of the public, by treatment and by legislation, tuberculosis ought to be stamped out among our people. This exhibit gave a comprehensive view of the various hospitals and sanatoria at the disposal of the tuberculosis workers of New York City, for the care and treatment of the tuberculous. These tuberculosis hospitals are: Mount Sinai Hospital, Riverside Hospital of the Health Department, Bellevue Hospital (which is free to all cases), the Metropolitan Hospital on Blackwell's Island, the Sea Breeze Hospital (which is used for the treatment of tuberculosis of joints and bones in children), the Otisville Free Sanatorium of the New York Department of Health (for patients in the early stages), and the Stony Wold Sanatorium (for women and girls in the early stages; this is located in the Adirondacks). Besides the exhibits of these hospitals, it was shown that in New York tuberculosis is treated on ferry boats, on the roofs of tenement houses, by visiting nurses, and by sleeping on the roofs of houses in hammocks. One of the unique methods used by the New York State Charities Aid Association in interesting the public in the tuberculosis question, is that of sending a half dozen phonographs around to the State fairs. Each phonograph is equipped with records made by experienced speakers on the tuberculosis question, one in particular being called "the spit record." This record tells the people just how the sputum indiscriminately thrown out will communicate tuberculosis from the sick to the well. The gentleman in charge of this exhibit informed the writer that already a half million people have heard these records. It is the constant experience of those in charge of these phonographs at State fairs that they gather a crowd, and hold it better than any attraction on the grounds. The educating influence of these phonographs is unquestionably great. Other associations should take up this idea.

Another interesting feature shown at the congressional exhibit hall was the so-called "Hygienic Chalice." This is the ordinary church chalice, with a number of waxed paper covers to slip over the edge of the cup, so that each one who drinks from the chalice places his lips only in contact with a fresh "mouth-place," to coin an expression suitable for this action, thus preventing infection from one person to another.

The new tenement law of the city of New York promises to accomplish much in stamping out tuberculosis, by giving the poor better living and sleeping quarters than they have had in the past. This law requires all rooms to be well lighted, well ventilated; 70% of the lot only is occu-

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pied by the building, the height of the building is limited to one and one-half times the width of the street, the yards of interior lots will be 13 feet wide and 1 foot for each additional story (six-story buildings); there must be large courts, 12 feet wide; courts must have an intake or tunnel at the bottom for the purpose of having a constant air renewal; no window can be within 6½ feet of another window, and they are generally 12½ feet apart, often 25 feet; no room can be less than 75 square feet, there must be 120 square feet in every apartment; sole access through bed rooms is prohibited; there must be a private watercloset for each family within its own apartment, and cellar walls and floors must be "damp-proof."

The exhibits of all the State sanatoria were excellent, particularly that of Rutland, Mass., the first State sanatorium to be founded in the United States. Maps of the temperature, winds, humidity, general climatological conditions prevailing in that section of Massachusetts were shown; then was shown a neat little model of the grounds and buildings of this celebrated institution. Photograph views of the verandas, with steamer chairs filled with happy, convalescent patients, lined the walls. Placards illustrating the rules of the institution, the hours of "rest" during the day, the hour of retiring, etc., were part of the exhibit.

Missouri, while she did not have an exhibit, distributed a book entitled "What Missouri is Doing." It contains an account of the good work that is being done under the auspices of the St. Louis Society for the Relief and Prevention of Tuberculosis. This society was organized in 1904 in a small way and has gradually grown in membership and good work since that time. It has two visiting nurses who are constantly visiting the consumptive poor. The nurses do primarily relief work, but they also teach members of the family how to protect themselves against the disease. The Society is working now to organize an association of tuberculosis clinics. Open-air lectures are given. A Show-Window Tuberculosis Exhibit is used by this Society as an educating influence. There are also some county societies in Missouri, to-wit: the Bates County Society for the Prevention of Tuberculosis, the Moniteau County Society for the Relief and Prevention of Tuberculosis, the Jackson County Society for the Relief and Prevention of Tuberculosis, the Cole County, Howard, Gasconade, Cape Girardeau, Ralls County, Greene County and Buchanan County and St. Joseph Society. The leading institutions for the treatment of tuberculosis in Missouri are the State Sanatorium at Mount Vernon and the Mount St. Rose Hospital of St. Louis. In the section on Municipal Control of the Congress, Dr. William Porter, of St. Louis, Medical Director of the State Sanatorium for Tuberculosis and head of the Mount St. Rose Tuberculosis Hospital of St. Louis, was called upon by the chairman of the section, Surgeon-General Wyman, to speak on the needed factors in handling the tuberculosis problem. He said that Missouri was educating

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the public of that State; that as a result we had laws enacted, the anti-spitting law and the new registration law, and thirdly, there were institutions for incipient cases and institntions for advanced ones. Another speaker from Missouri, Mr. E. F. Goltra, head of the St. Louis Society for the Relief and Prevention of Tuberculosis, said that the question of warfare against tuberculosis was a business man's responsibility, and he asked that busineses men should meet it, from the standpoint of both vital and economic loss.

The foreign countries, Germany, France, Hungary, Sweden and others, showed what they are doing in fighting tuberculosis. They are educating the well how to stay well, and they are curing the sick by appropriate home and sanatorium treatment. Germany's process of education, according to her exhibit, consists in telling her people what tuberculosis is, how the infection takes place, how one can protect one's self against tuberculosis: first, by measures taken against contracting the disease, and, secondly, by showing the measures for strengthening the body; then by giving advice to persons in great danger; lastly, by giving advice to diseased persons. Excellent tables showed that there are over sixty million people in the German Empire at the present time, and that in the past twelve years, since the tremendous impulse given to the enactment of legislation, and the erection of sanatoria in that country, the disease has been steadily decreasing. It is now evident that tuberculosis shows a considerable decrease nearly everywhere in the German Empire, but especially in those parts where it found its widest spread before. There are at present in Germany 99 public sanatoria in action for the treatment of tuberculosis, one public sanatorium still in process of building, 2 country colonies for the treatment of tuberculosis, 12 nursing homes and homes for invalids (with three in process of construction); there are 36 private sanatoria for the treatment of this disease, 17 sanatoria for tuberculous children, 73 sanatoria for children scrofulous or suspected to be tuberculous.

Sweden has done remarkably good work in fighting tuberculosis, and she showed what she has done and what she intends to do in an interesting exhibit, and by the publication of a book dedicated to the International Tuberculosis Congress of 1908. The work in Sweden is carried on under the auspices of the Swedish National Anti-Tuberculosis Association. Information to the public is spread by this association by means of public lectures, as well as a public tuberculosis museum at Stockholm. Physicians in Sweden are trained in sanatoria for tuberculosis patients, so that they obtain a good idea of the diagnosis, prophylaxis and hygiene of the disease. By means of the efforts of the national association, many sanatoria have been erected and put in action. Calmette's brilliant idea of developing the use of dispensaries as an effective weapon against tuberculosis has found deep root in Sweden, and many institutions of that

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kind are already in operation there. Plans have been made and carried out in Sweden for protecting the working people against contracting the disease, as well as protecting the children of the tuberculous from becoming infected. Social hygienic experiments were made in the parish of Lower Lulea, in Sweden, for improving the condition of things in known tuberculous areas. In short, no phase of the problem has been overlooked in that progressive country.

Other countries, France, Switzerland, Austro-Hungary, Brazil, Cuba, etc., showed what they are doing in working out the salvation of their people. The movement is going on swiftly, and results of decided worth are already recorded. This the exhibition halls of the Congress showed in unmistakable manner.

The initial meeting of the general Congress was held on September 28, 1908. It was presided over by the Secretary of the United States Treasury, acting for the President, Mr. Roosevelt. Each country was represented by an official delegate, thirty-three in all, Japan alone of all the civilized nations being conspicuous by having no representation. The official representatives, in short addresses, voiced the sentiments of their respective countries, and assured the Congress of their good wishes and desire to co-operate effectively in stamping out tuberculosis. The gathering was a remarkable one, and the general impression prevailed after the meeting that such united action certainly indicated that very effective work would be accomplished. Tremendous enthusiasm prevailed when Robert Koch, presenting the compliments of his country, the Imperial German Empire, arose and assured the Congress that the work in Germany is being seriously undertaken, and that the Robert Koch Stiftung, or grant, was created for the sole purpose of solving this problem. The general sessions and the section meetings were given over completely to the discussion of the scientific research work on tuberculosis, the means of early diagnosis, and the methods of cure, as well as to the recognition of the alarming prevalence of the disease, and the best means to be taken to protect the healthy from fresh infection. The theme of the meeting was the education of the public. The exhibits attempted to educate the public, as well as the profession. The formal papers were devoted to a consideration of the means of educating the medical profession on its duties towards the tuberculous-infected people of the world, in teaching them how to get well and stay well, as well as in educating them to protect their uninoculated neighbors.

The greatest factor in prevention and curing tuberculosis is the following-out of some simple rules of living—sunshine and fresh air, the eating of good food, and the avoidance of excesses. There was an inscription written upon the wall of the exhibit of the University of Wisconsin, which was quoted from the writings of Gabriel d'Annunzio, the great Italian novelist. It was as follows: "Come with me, out into the

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sunshine." This quotation practically expressed the modern conception of the proper treatment of early tuberculosis. It was portrayed and the sense carried out in practically every exhibit, and in every paper read before the Congress. The essence of tuberculosis treatment is fresh air and sunshine. The whole civilized world now appreciates the fact that tuberculosis is a curable disease, that it is curable by following out the ordinary rules of personal hygiene, that its recognition should and can be early made, that so-called "climatic" treatment is a thing of the past. The wildest enthusiasts on the "climatic" treatment of tuberculosis acknowledged, at this Congress, that a patient in the beginning stages of tuberculosis can be cured as easily in Missouri, or Kansas, or New York, or Vermont, or Louisiana, or Minnesota, as he can in Colorado, or Southern California, or New Mexico. It is not necessarily so much a question of putting a patient into a supposedly favorable climate as it is to get him to live in the open air, to sleep in the open air, to live correctly, to eat properly, and to avoid alcoholic and other excesses, at the same time to do a certain amount of physical labor, not beyond his individual capacity. There was unmistakable condemnation of the practice that has prevailed so long of physicians assuring patients, in any or all stages of the disease, to seek other climes, irrespective of physical conditions, irrespective of the financial status of the patient, and regardless of the danger of nostalgia attacking a stranger in a strange land. Nostalgia is the great foe to the tuberculous patient who seeks a climate that has been pointed out to him by medical and lay friends as a veritable El Dorado of health. Nostalgia has sent many a tuberculous person back to his "home" climate from a "favorable" climate, in a coffin. Possibly the greatest mistake that the medical profession has made in the past is the common practice of believing that a patient can get well in Colorado, New Mexico, Texas or California, if he can only get there; and greater still is the mistake that many doctors are making of telling these patients not to seek medical advice when they go to these tuberculosis resorts. Many of these patients, on arriving at such resorts, acting upon the medical man's advice in their home town, live recklessly and carelessly, and begin to decline in health as soon as they arrive at the supposedly healthy climate. It is not the climate that counts for so much as it is the manner of living. That is the position of the medical world today upon this phase of the tuberculosis problem.

The Congress listened to the words of Dr. Koch, of Berlin, regarding the relationship between human and bovine tuberculosis. It will be remembered that this German bacteriologist, several years ago, at the International Congress on Tuberculosis, meeting in England, startled the medical world with the assertion that bovine tuberculosis, in his opinion, was not transmissible to man. The stir that this statement created was pronounced. Since that time, fact upon fact has been brought for-

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ward to show Dr. Koch that he is in error upon this subject, and that bovine and human tuberculosis are intercommunicable. At this Congress Koch continued to maintain his position, as originally advanced. Much though he dominated the convention, so far as great attention and respect was paid to whatever he would give out for publication, nevertheless, practically, the united Congress refused to acknowledge the correctness of his views along this line, and even went so far as to pass resolutions declaring for the unity of bovine and human tuberculosis. Arloing and Courmont, of Lyons, France, stood out above all others in denying the truth of Koch's contention. The clash of theories on the question of the unity or duality of the tubercle bacillus from man and cattle was seen in the conflicting statements of three leaders of medicine in their addresses, to-wit: Dr. Koch, in his address, said, "Up to date, in no case of pulmonary tuberculosis has the tubercle bacillus of bovine type been definitely demonstrated." Dr. Johann Fibiger, of Copenhagen, Denmark, said, in refutation of this, "Now, the wrong of Koch's opinion being generally recognized, one does not forget that the transmissibility of bovine tuberculosis to man is pointed out by extensive investigations from the last few years." Speaking from the standpoint of the American authorities, Dr. M. P. Ravenel, of Madison, Wis., sharply replied to Koch in these words: "On the correct solution of this question depends, no doubt, the health of many children, and even their lives, and I would consider it an extreme misfortune, not only for this country, but to every country on the face of the earth, if any impression should go from this meeting that even the small proportion of deaths due to the bovine bacillus was a negligible quantity." Koch and Fibiger called attention, in their addresses, that it is to an American, Dr. Theobald Smith, of Harvard University, that the medical world owes the knowledge of the morphologic and biologic differences between the human and the bovine tubercle bacillus. In order to give a complete understanding to our readers of exactly what Koch's position on this point is, I will quote his exact words before the Bacteriological Section, where the heated argument that was the only controversial scene of the entire Congress occurred. He said, in part:

> The question whether or not human and bovine tuberculosis are identical is, indeed, of high theoretical interest. But the practical importance of the question which concerns the prevention of tuberculosis is of far greater importance. For this reason I will confine myself solely to a consideration of the practical side of the subject.
>
> To Theobald Smith, of Harvard, belongs the credit to have been the first to direct attention to certain differences between the tubercle bacilli found in man and in cattle. It was his work which induced me to take up this same study. In cooperation with Schutz, I have undertaken a series of experiments for which we selected cattle, these animals being specially suited for such work.
>
> The results of these experiments have led me to conclusions which I first communicated to the British Congress on Tuberculosis, in 1901. They are, in substance, as follows:

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1. The tubercle bacilli of bovine tuberculosis are different from those of human tuberculosis.

2. Human beings may be infected by bovine tubercle bacilli, but serious diseases from this cause occur very rarely.

3. Prevention measures against tuberculosis should, therefore, be directed primarily against the propagation of human tubercle bacilli.

NOT ASKED TO ACCEPT VIEWS.

I did not expect that my personal views on the relation of human and bovine tuberculosis would be accepted as final, but I asked that the experiments of Schutz and myself be repeated. This has been done by a host of investigators.

The animals used for experimentation must be entirely free from spontaneous tuberculosis. Since the earliest stages of tuberculosis infection can not be recognized with certainty, the source of error arising therefrom is only to be overcome by experimenting on long series of animals. This is especially true of investigations on cattle, as in them tuberculin proves the presence of tuberculosis not immediately after infection, but only after the lapse of a certain time. Experiments conducted on too small a number of animals carry no weight whatever. Single exceptions in extensive series of experiments depend, as a rule, on experimental error. They should be valued accordingly, or the whole series repeated.

USE CULTURE OF BACILLUS.

Inoculation of animals should be made subcutaneously with weighed quantities of a culture of the tubercle bacillus. Experience has shown that the best results for infection are obtained with doses of ten milligrams. Tissue substance must not be used directly, as it contains the tubercle bacilli in irregular distribution. The results obtained thereby are, consequently, not comparable. It is not practicable to use the tubercle bacilli in too large doses, or to make intravenous or intra-abdominal injections, as by such applications non-virulent, or even dead, tubercle bacilli may produce lesions resembling tuberculosis, and thus simulate positive results.

Many of my opponents have made strenuous efforts to prove that the tubercle bacilli in man and those in cattle can not be of different species, and they imagine that they can thus refute my contentions. This, however, is a perfectly useless endeavor. I have never held that we are dealing with two distinct species, but have only stated that they differ from each other in certain characteristics, characteristics which are of the greatest importance in combating tuberculosis.

QUESTION OF SPECIES IRRELEVANT.

Whether these differences justify us in speaking of special varieties, or even species, is, from my point of view, quite irrelevant. I am concerned, as I have previously stated, only with the practical significance of the differences between human and bovine tuberculosis.

Others of my opponents have attempted to refute me by showing that the bacillus of the human type may be transformed into the tubercle bacillus of the bovine type, and *vice versa*, by passages through animals, or by cultivation under artificial conditions. In this connection I can merely repeat that I am interested only in the practical significance of the difference between the two types of tubercle bacilli.

For our purposes, that is, for combating tuberculosis, it is absolutely without significance what changes tubercle bacilli will undergo after being passed through a series of animals, or during cultivation under some artificial conditions. Those

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men who consume milk and butter do not hold back and make cultural or animal experiments; they eat them in the fresh, unchanged condition. In my opinion, therefore, we are concerned here with the properties of the fresh and unchanged tubercle bacillus only. I do not deny that cultural transformation may be made with these as well as with other bacteria, but this is a question of purely theoretical value. I shall, therefore, lay it aside.

SUMMARY OF INVESTIGATIONS.

We may now take up the results of recent investigations. I believe that what has come to my knowledge, so far, may be summarized, briefly, as follows:

All competent investigators agree that the tubercle bacilli of human origin differ from the tubercle bacilli of cattle, and that, consequently, we must differentiate between a typhus humanus and a typhus bovinus. The British Commission also admits the existence of three differences, but as some of their cultures showed definite changes in their characteristics after passage through animals and various cultivations, they have differentiated a third group, which they call "unstable."

As I have repeatedly emphasized, it is not of the slightest importance to us whether, after animal inoculation or breeding experiments, the tubercle bacillus is stable or unstable. What concerns us is its behavior in the fresh condition. I am, therefore, unable to accept this third group of the British Commission, and I am satisfied with their admission that the fresh tubercle bacilli of the human type differ distinctly from those of the bovine type.

HOW BACILLI GROW.

The tubercle bacilli of the human type are characterized by the fact that they grow rapidly and abundantly in a thick layer on glycerin serum. They are virulent to guinea pigs, slightly virulent to rabbits, and almost non-virulent to cattle. The tubercle bacilli of the bovine type grow very slowly and in a thin layer on glycerin serum; they are of equally high virulence to guinea pigs, rabbits and cattle. To my knowledge the bacilli of the human type have never been demonstrated in cattle.

The bacilli of the bovine type, on the other hand, can occur in man. They have been found in the cervical lymph glands, and in the intestinal tract. With few exceptions, however, these bacilli are but slightly virulent for man, and remain localized. The few known cases in which the bovine tuberculosis is said to have produced a general and fatally progressive tuberculosis in man appear to me not to be above suspicion.

PULMONARY IMPORTANCE.

In closing, I have still one point to discuss which seems to me of high importance. Of all human beings who succumb to tuberculosis, eleven-twelfths die of consumption, or pulmonary tuberculosis, and only one-twelfth of other forms of the disease. One would have expected, therefore, that those investigators who are interested in establishing the relations between human and bovine tuberculosis would have searched for bacilli of the bovine type preferably in cases of pulmonary tuberculosis.

This, however, has not been the case. Evidently animated by the desire to bring together as many cases as possible of bovine tuberculosis in man, they have investigated particular cases of gland and intestinal tuberculosis, and have negelected the much more important pulmonary tuberculosis. In spite of the bias under which the researches hitherto have suffered, there yet remain at our disposal a sufficient number of investigations of pulmonary tuberculosis to warrant a provisional expression of opinion.

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BOVINE TYPE UNDEMONSTRATED.

The gist of it is—and I beg you to take note of it—that, up to date, in no case of pulmonary tuberculosis has the tubercle bacillus of the bovine type been definitely demonstrated. If, on further investigation, it should be established that pulmonary tuberculosis is produced by the tubercle bacillus of the human type exclusively, then the question will be decided in favor of the view which I have upheld, and we must direct our regulations for combating tuberculosis by all means primarily against the tubercle bacilli of the human type.

On account of the great importance of this question, I intend to undertake, as soon as feasible, experiments along this line on a broad scale. At the same time I wish to make my plea to other tuberculosis workers that as many cases as possible may be examined to join with me vigorously in this task. But I wish to lay stress on the fact that the conditions laid down by me for the carrying out of these investigations must be followed. I consider it quite possible that in this manner the essential facts for deciding this important question may be collected in about two years, and be presented to the next International Congress.

The Congress, in breaking up, to meet again three years hence, has done mankind a great service by teaching the following lessons:

1. Educate the public on the parastic nature of the disease.

2. Enact legislation calculated to protect the well and care for the sick.

3. Continue to stamp out tuberculosis in cattle, as well as in man, regardless of the Koch dictum.

4. Encourage the erection of sanatoria for the treatment of tuberculosis, mainly because of the educating influence of the "graduates" of such sanatoria upon their neighbors when they return to their communities.

5. Discourage the practice of sending patients into so-called favorable climates unless all proper conditions are to be had.

6. Urge the importance of early diagnosis of tuberculosis. Use every available means for making such an early diagnosis, auscultation, percussion, examination of sputum, record of daily temperature, and loss of weight; use the cutaneous methods of Von Pirquet and others.

7. Remain in a receptive state concerning the usefulness of the therapeutic sera for the treatment of the disease. Try these measures and note your results with great care. The various therapeutic sera advocated for use in tuberculosis at this Congress gave very favorable results, according to Marmorek, Maragliano, Beraneck, Raw of Liverpool, and Denys of Belgium.

Most interesting and valuable were the papers read, and the formal discussions before the seven sections of the Congress. The meeting was attended by about five thousand persons, and it was a pronounced success from every standpoint. The good that will be accomplished by this, the banner meeting of the International Congress on Tuberculosis, is incalculable. The main topics for discussion were plainly brought out. Al-

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ready the delegates have scattered to their respective places of abode, and the work of stamping out tuberculosis is being prosecuted with renewed efforts. America showed that she is abreast of the times on this question, and that she is, indeed, becoming a world power in medicine, as well as in politics. Many of the foreign envoys are now leisurely traveling around the United States, visiting the principal medical points of interest before returning home. A cordial welcome awaits them at every port of American medicine. This commingling of kindred spirits will be productive of the greatest advantages to the profession and to the public.

Among the most important papers read before the meeting, I wish to call attention in the following abstracts to the following:

Graduated Labor in Pulmonary Tuberculosis.

By Dr. M. S. Paterson, England.

Endeavor to correct the idea that work is to be employed in every case and at all times.

System of graduated labor at Frimley Sanatorium begins with almost more extreme rest than in any other sanatorium.

In conjunction with Dr. Paterson, Dr. Inman has shown by the opsonic index that exercise has a definite effect on the blood in pulmonary tuberculosis. It also influences the temperature.

Influence upon blood and temperature believed to be due to toxins produced at seat of lesion or "auto-inoculation" (Wright) when the toxin reaches the blood and lymph stream. Persistence of this fever and state of blood leads to death of patient. Absolute rest necessary to prevent this.

Details of system pursued: Patients with temperature even of 00° F. by mouth, and headache, sent to bed, not allowed to wash themselves or go to lavatory. Every possible means used to stop cough not productive of sputa.

Graduated exercises begun later and careful watch kept on temperature. Patients' work gradually increased under constant supervision until such time as they can perform the heaviest work without rise of temperature.

Chief indications of "auto-inoculation:"

1. Loss of appetite (usually means too hard work).
2. A patient is seen to do his work as if it were an effort.
3. An irregular swinging temperature always below normal.
4. A temperature of 99° F. in early cases in men.
5. A temperature of 99° F. and headache.

The Duration of the Actively Infectious Stage of Tuberculosis.

By Doctors Robert N. Willson and Randle C. Rosenberger, Philadelphia.

The authors have studied the rich store of tuberculous material in the Philadelphia General Hospital, from both the clinical and laboratory standpoints, examining in each case, when possible (100 cases completely), the urine, sputum, and feces. and often also the semen, the blood, the spinal fluid, and thoracic or abdominal effusions. In a great majority of instances the tubercle bacilli proved demonstrable in at least one, and usually in all three of the main excretions, and occasionally in all the body fluids, including five out of eight cases in which even the semen con-

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tained the bacilli at the time of the autopsy. The bacilli were demonstrated in the feces in every case in which they were found in either the sputum or urine, and in many cases in which the tuberculous process was either of the acute miliary type, or seemingly of a strictly localized nature (*e. g.*, glandular, etc.).

The duration of viability of the bacillus in sputum, urine, and feces, was found to be very variable, especially when allowed to dry in full sunlight. In every instance many days passed before the disappearance of the bacilli, and in water they were found to live for over a year. Practically no limit was determinable for the duration of infectiousness of even the dried excretions. Though in some specimens, after several weeks time, the bacilli resisted tinctorial methods from all, the disease was transmitted to susceptible lower animals.

Inoculation experiments were performed upon guinea pigs to ascertain the earliest appearnce of bacilli in the excretions following infection by feeding, as well as by hypodermic and intraperitoneal injection. Clinical instances of incipient pulmonary tuberculosis in the human being, also of tuberculosis of other portions of the body than those communicating with the air, are cited to show the infectiousness of urine and feces, almost from the beginning of the disease. In all animal experiments the bacilli were demonstrated in the feces and urine within the first week, in most cases before either cough or sputum appeared.

Especial emphasis is laid upon the importance of the presence of living bacilli in the urine and feces of all cases of tuberculosis, whether of the genito-urinary, or intestinal, or respiratory, or other tract; and the bearing of their presence upon the infectiousness of sewerage, and of the drinking supply. Attention is urgently directed to the necessity of systematically preventing the spread of tuberculosis through these new unguarded channels, if the disease shall ever be brought under control.

Some Uses of the Imagination in the Prevention of Tuberculosis.

By Sadie American, Executive Secretary of the Council of Jewish Women.

Few strides in human progress have been made without the exercise of constructive imagination. So have the causes of tuberculosis become known, so has the propaganda of prevention been born.

On our own part there must be a lively exercise of imagination that we may fully realize the environment of those whom we hope to influence—the forces that hold them in thrall, mental and material, that we may thus be enabled really to put ourselves in their place, and so develop methods and means suited to them.

Plenty, even waste, at one end of the social scale, renders it difficult to realize scarcity at the other; constant overfeeding renders almost incomprehensible the idea of constant underfeeding. Upon the imagination we must depend to present evil conditions to us with their causes, so that aroused feeling will force us to resistless campaign for a living wage, for shorter hours, for protection against fumes that scar the lungs, and all health-breaking conditions of factory or home.

Experience plus imagination created the belief in the mysterious evil powers of the air. Will our imagination so put us in the place of those others that we will realize that no mere dictum or cold instruction will serve to break this control of habit, custom, imagination?

Can we not use the same power of imagination to create a belief in the mysterious forces for good dancing in the sunlight eager to get in, traveling on the wings of the quiet evening air, waiting in the starlight night to enter, to protect, to safeguard and to heal, if only the window is opened to them—if only they are not barred by the glass which to the mysterious powers for good may be made to serve

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ter against the evil demons of old? Can we not transform fear of the
ready the to faith in the mysterious good?
the work of st ntion the imagination has its uses: in the prescription of food
efforts. America according to the patient's custom of eating, in the prescrip-
and that she is, indeed, according to other social customs.
in politics. Many of the for war into the enemy's country with any hope of suc-
the United States, visiting the into the thoughts and feelings of those whom
imagination they shall learn to protect them-
returning home. A cordial welco o which we would be roused did we see a
can medicine. This commingling belonging to a man walking leisurely by
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Among the most important paper ze exploitation less flagrantly before us,
call attention in the following abstract strain, unsanitary conditions of manu-
se who permit it, as upon those guilty
the penalty in the larger social sense
nd enforcement: laws and custom
ly when imagination has realized
work consciously and consci-
, finding our sacred sanction
over a grave, in the power
shanest among us.

Graduated Labor in Pulmo

By Dr. M. S. Paterson,

Endeavor to correct the idea that work is to be
all times.

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The Duration of of Tuberculosis.

By Doctors Ro RGER, Philadelphia.

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signs are bronchial breathing, prolongation of expiratory murmur, pleuritic rub, increase in tactile fremitus and vocal resonance, feeble bronchophony, and impairment of resonance. When the infiltration is dense, or there is secondary infection, the symptoms all become more marked, and there is dullness on percussion. When the process has gone on to cavity formation, and the cavity is small, tactile fremitus and vocal resonance will have again become normal, and bronchophony has been replaced by whispering pectoriloquy. The percussion note has become tympanitic. As a small cavity dries up the physical signs again become nearly normal, except as to quantity. Absence or deficiency of normal physical signs should raise a question of tuberculosis. Absence of tubercle bacilli from the sputum should not weigh too heavily against the diagnosis.

Treatment of early tuberculosis is a retracing of the steps which led to the development of the disease. All that is necessary is a simple life, properly selected diet, fresh air, and such medication as is necessary to restore the human organism to its physiological functions. Recovery from tuberculosis has a restricted meaning. It means an arrest of the process of destruction and restoration to physiological health, but not a condition of sterility from tubercle bacilli. It is uncertain whether recovery ever means freedom from tubercle bacilli. This may take place in lymphatic tuberculosis and tuberculosis of the lungs before destruction of tissue. Recovery from these conditions, apparently, sometimes gives immunity. When tuberculosis is more advanced, and there has already been a deficit in the physiological capacity of the organism, more heroic treatment is necessary. The patient should be put to bed at complete rest for a while, kept at comparative rest for a while longer, and then put on gradually-increased exercise. Exercise is as important for the latter part of the treatment as rest is for the first. The diet should be carefully selected to suit the individual. A good general basis for diet is one meal of solid food a day, and three quarts of milk and six raw eggs a day. The one meal should consist of beefsteak, roast beef, or roast mutton, with fresh vegetables and fresh fruit. The patient should be directed to take one hour to eat his meal. Fruit and nuts may be eaten between times. Oxygen is just as necessary as food for proper nutrition, and it is, therefore, very important that the patient have fresh air for the entire twenty-four hours. He should under no circumstances breathe rebreathed air. If he can not live out-of-doors, he should live in a room with cross-ventilation. Drafts can do him no harm if he is properly clad. Much can be accomplished by medication. Iodin is the best drug known to me. Drugs should be used to stimulate physiological action, and never to interfere with it. Elimination of poisons and of micro-organisms should be encouraged. Nutrition should be stimulated. Tuberculosis in the early stage can be treated successfully at home in any climate. The home treatment pares the patient for after-life. When proper discipline can not be established home, the patient should be treated in a sanatorium in the climate in which been accustomed to live. After sanatorium treatment has restored the indi- physical health, a course of home treatment should be instituted to teach to live in order to keep well.

Limitation of Tuberculosis by House Ventilation.

By Dr. Charles Denison, A. M., Denver.

ing practically a house disease, due to deficient air-renewal and of ventilation can be devised and enforced for prevention?

g, and assuming a knowledge of the fact of this house relation le of ventilation, which is the object of this essay, is worked mpromise between Parkes' space rule—3,000 cubic feet room-

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area for one person—and Du Charmant's renewal rule—approximately two-thirds of a square foot inlet and outlet opening for hourly renewability. This, as the basis of a desired law, is made a rule of minimum ventilation.

The purpose is to determine a danger limit to health, below which living, sleeping and workshop rooms should not be allowed to be built. The equivalent of the above two determinations is found in the following rule, provided the spirit of the law, and a sufficiency of sun effect upon the air, are, respectively, regarded and provided for securing ample possibilities of ventilation in all future houses constructed; and education, and a knowledge of the danger of deficient ventilation, will help to maintain compliance with the law.

The rule of minimum ventilation: 2,000 cubic feet air space per person, renewed once per hour; the complete hourly refreshing of a room's atmosphere being the method of renewal.

An adjustment of this rule is intended to be made to the various sized rooms, and to the number of occupants, as well as to different sun exposures, so as to have provision for ample ventilation under all circumstances.

In planning "the limitation of tuberculosis by house-ventilation," we must take into consideration the influence of the sun, the source of atmospheric electricity, in fitting the air for respiration.

Comparative Importance of Treatment in Sanitoria Near at Hand and an Entire Change of Climate.

By Dr. Frederic J. Knight, Boston.

Modern treatment of tuberculosis directed to the individual affected rather than to the disease.

Sanatorium treatment simply the most efficient method of subjecting a patient to proper treatment.

We can not strictly compare sanatorium and climatic treatment, as climate is a factor of all treatment.

If the proposition is as to the relative merits of sanatorium treatment near home, and an unrestrained life under radically-changed climatic conditions, the choice would usually be for the former.

A radical change in meteorologic conditions is sometimes necessary for its effect on metabolism, but the relative value of the climatic factor will only be determined by a careful comparison of statistics of observations made under similar conditions in different parts of the world.

The Occurrence of Pulmonary Tuberculosis in the Children of Tuberculous Parents.

By Doctors J. A. Miller and J. O. Woodruff, New York.

One hundred and fifty children of tuberculous parents were examined as the basis of this report.

Of the 150 cases, 76, or 51%, were found to be positively tuberculous; 43, or 29%, not tuberculous, and 31, or 20%, doubtful. The main factors in arriving at a diagnosis are:

1. Malnutrition.
2. Pulmonary symptoms and physical signs.
3. Enlarged cervical lymph-nodes.

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4. Hypertrophied tonsils and adenoids.
5. Tuberculin tests.
6. Sputum examination.

Of these, the pulmonary symptoms and signs and the tuberculin tests appear to be the most valuable and consistent.

The physical signs in children under ten years are not those of the typical apical lesion usually found in adults, but are often signs of a persistent localized bronchitis, usually in the lower anterior chest.

The ophthalmic, the cutaneous, and the hypodermic tuberculin tests were all employed, and the results of the local tests were corroborated in all cases in which the hypodermic test was also given. The cutaneous test was fully as reliable, if not more so, than the ophthalmic test.

Enlarged cervical lymph-nodes and hypertrophied tonsils and adenoids do not seem to be a determining factor in a diagnosis of tuberculosis. Malnutrition is sometimes the only appreciable evidence of tuberculosis in children. The examination of the sputum was of little value.

The results of this investigation lead to the conclusion that pulmonary tuberculosis is very frequent in the children of tuberculous parents.

"Tuberculosis of the Ear."

By Dr. Clarence John Blake, Boston.

The clinical aspects of tubercular infection, as manifested in the middle ear, and the consequences evidenced in advanced implication of the temporal bone were described by the earlier writers on otology, but it is only within the past ten years that more precise attention has been given to a form of invasion of the middle ear and labyrinth, characterized by considerable and rapid destruction of all tissues, this being coupled with a peculiar lack of preliminary subjective symptoms.

The accessibility of the middle ear cavity to infection, through the medium of the tympano-pharyngeal tube, and the character and location of the soft tissues in the epitympanum explain the more common implication of this cavity, while the peculiarity of the objective symptoms emphasizes the importance of aural examination for purposes of differential diagnosis.

The Comparative Value of Change of Climate and of Treatment in Sanatoria Near at Hand in Cases of Pulmonary Tuberculosis.

By Dr. Carroll E. Edson, A. M., Denver.

An outdoor life is one of the essential aids to the cure of pulmonary tuberculosis.

Climate is the sum total of the meteorologic conditions prevailing in a given region over considerable periods of time.

The climatic surroundings of the patient have to be considered. Consciously or unconsciously we select a climate for every patient, even when we keep him at home.

That climate is most favorable which most readily permits an outdoor life.

A change of climate will be of advantage to a patient, if we can thereby place him under meteorologic conditions which to a greater degree than before, and more constantly, permit him to lead the necessary outdoor life with ease, safety and economy of vital expenditure.

The accompanying change of scene and surroundings may be expected to act advantageously in an individual way.

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In making any proposed change of climate, attention must be given to the facilities in the new region for obtaining suitable food, accommodation, care and medical supervision.

If these conditions can be fulfilled in a better climate as well as at home, the patient should be advised to make the change.

If the patient's financial, social or domestic circumstances are such that he can not, in the new climate, secure proper and sufficient food, accommodation, care and medical attention, or if his mental attitude is such as to make separation from home inadvisable, he should not be sent away.

Tuberculosis of the Nose, Mouth and Pharynx.

By Dr. H. P. Mosher, Boston.

Owing to the protective power of the nasal mucous membrane, primary tuberculosis of the nose is rare. Primary tuberculosis is characterized by a superficial ulceration situated over the anterior part of the cartilaginous septum. Secondary tuberculosis of the nose is more common than the primary form. It is part of a general or of a pulmonary tuberculosis. The secondary form tends to produce tubercular tumors. Nasal tuberculosis has a slow, painless and progressive course. As a rule, it does not extend to the pharynx.

In making a diagnosis of tuberculosis of the nose the chief disease to exclude is syphilis. The points of difference are as follows:

Tuberculosis attacks the cartilaginous part of the septum; there is little, if any, inflammatory reaction, there is no odor, and its course is painless. Syphilis, on the other hand, attacks by preference the bone of the septum. There is a marked inflammatory reaction, there is odor and there is pain.

Tubercular lesions are found in all parts of the mouth. The most common lesion is an ulceration. The first sign of a tubercular lesion of the mucous membrane of the mouth is the appearance of a circumscribed area, which is pale and slightly edematous. Within this there are small submucous yellow or gray tubercles. These soon break down into a shallow ulcer. On cleaning the bed of the ulcer, numerous tubercles are found scattered over it. The worm-eaten edge of the ulcer is set about with tubercles and granulations. Occasionally a tubercular tumor or a tubercular abscess of the tongue occurs, but the common lesion of the tongue is the common lesion of the rest of the mouth, namely, an ulceration. In most cases ulcerations of the tongue, like other tubercular ulcerations of the mouth, cause little, if any, pain; at times, however, ulcerations of the tongue are very painful. Trauma plays an important part in causing and localizing tubercular lesions of the mouth and tongue.

The final and absolute test of tuberculosis of the nose, mouth and pharynx is the finding of tubercle bacilli. Tubercle bacilli are very hard to detect in tissue removed from the nose, mouth or pharynx. The finding together of giant cells and caseation is very strong proof of tuberculosis. Before making a diagnosis of tuberculosis of the mouth syphilis must be ruled out. In certain cases, where tuberculosis causes an abundant over-growth of nodular tissue, the presence of malignant disease is simulated.

Tuberculosis of the pharynx is not uncommon as a secondary infection from tuberculosis of the lungs. Extensive tuberculosis of the pharynx is a serious complication, because it interferes with the patient's swallowing. Such cases soon end fatally. Tuberculosis of the tonsils often occurs secondary to tuberculosis of the lungs. In most instances it runs a mild course. Sometimes, however, the tonsils

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become deeply ulcerated, like the rest of the pharynx. Primary tuberculosis of the faucial and the pharyngeal tonsil occurs in 5% of cases.

The pharyngeal tonsil is infected by the air current, the faucial tonsil by food. In what percentage of cases tonsillar tuberculosis is of the bovine type has not been determined. Wood maintains that 5% of the children have latent primary tuberculosis of the tonsils. At any age there are few diseases which are latent in the body in such a large percentage of individuals. The tonsils are oftenest infected with tuberculosis in childhood during the time when the epithelium lining the crypts is spread apart and thinned by the passage of lymphocytes through it. While the germinal centers are active they shower lymphocytes into the surrounding tonsillar substance, and upon the epithelium of the crypts. Tuberculosis of the tonsils rarely causes pulmonary tuberculosis or general tuberculosis. The great importance of tonsillar tuberculosis lies in the fact that an overwhelming majority of enlarged cervical glands are tubercular, and that these glands are infected from the tonsils. Cervical tuberculosis is limited to the glands of the neck; it seldom gives rise to tuberculosis of the apex of the pleura or the lungs. The first step in the treatment of enlarged cervical glands is to remove the tonsils by thorough dissection.

The treatment of tuberculosis of the nose, of the mouth and of the pharynx, is the thorough removal of the tubercular tissue with the curette, and the subsequent use of lactic acid. In this way small lesions may be made to heal, large lesions also may be made to heal for a time, but they break down again. In small primary lesions of the nose, of the mouth and of the pharynx, the use of tuberculin would seem to have a special field.

Treatment of Renal Tuberculosis.

By Professor Thorkild Rovsing, Copenhagen.

1. The danger of infection from tuberculous urine is underestimated or neglected.
2. The diagnosis of renal tuberculosis is, as a rule, made only after many years' illness, and then only when the bladder has become affected.
3. Until the bladder symptoms set in, the diagnosis is nephritis, and the treatment, therefore, quite different to the rational therapy.
4. The physician's attention, therefore, ought to be drawn to the early diagnosis through microscopic and bacteriologic examination of the urine in every case of albuminuria.
5. If pus is found, but no bacteria, in stained preparations and by culture, the diagnosis of tuberculosis is nearly sure.
6. The diagnosis made, care must be taken of the linen and the urine, on account of its contagiousness.
7. The patients ought to be sent to a surgeon for cystoscopy and ureteral catheterization, as they always have a chance to be cured, if one kidney is healthy, by nephrectomy of the diseased kidney, and, if the bladder is also affected, this can be treated by injections of 5% to 6% solution of carbolic acid after my method.

Tuberculosis of the Bladder.

By Dr. Bransford Lewis, M. D., St. Louis.

Tuberculous infection of the bladder is accomplished in five ways: (1) through the blood-channels, (2) through the lymph-channels, (3) by means of the secretions of the semen, urine, etc.), (4) by continuity, and (5) by contiguity.

This infection is almost never primary; is practically always secondary to tuberculous infection of some other organ or organs of the body. This fact is largely

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due to two reasons: To the non-absorptive mucous membrane of the bladder, making it resistant to the infection and, therefore, late, or secondary, in its accomplishment, and to the fact that, in the male, it lies in the path of the flow of the two secretions that are commonly carriers of tubercle germs, the semen and the urine.

Early Manifestations.—The location and early manifestations of the disease in the bladder are much influenced by the mode of accomplishing the infection, though the trigone and immediate neighborhood of the ureteral orifices are the seat of most frequent manifestation.

Clinical Evidences.—In the early stages the clinical evidences, as disclosed by the cystoscope, are typical and characteristic; but, later, they are modified by the mixed infection that is prone to occur. The early typical evidences are localized congested areas, then tubercle nodules, with stellate accentuation of the small vessels, the centers breaking down into rounded ulcers that show a tendency to coalesce. The vesical membrane loses its natural luster and becomes roughened or velvety. The bladder becomes reduced in capacity—contracted.

Symptoms—Among the earlier clinical features that should awaken the suspicions of the practitioner are the complaint of apparently causeless frequency of urination (connected more especially with infection of the neighborhood of the neck), the prolonged persistence of blood cells in microscopic quantities in the urine, and, later, the development of marked pain in the bladder or its neighborhood, either spontaneous or excited by urination. This becomes so severe that many sufferers become addicted to the use of morphine or cocaine for its alleviation.

Diagnosis.—The diagnosis may, and often must be, arrived at without detecting tubercle bacilli in the urine, although this is ordinarily the supreme test of the question. Tuberculosis of the bladder, without exposed ulcers, may not shed the germs, hence they could not be expected under such circumstances, unless from another organ higher up. On the other hand, tubercle bacilli in the urine do not necessarily indicate tuberculous infection or ulceration of the bladder. It has been definitely proved that, like typhoid and other organisms, tubercle bacilli may, for indefinite periods, be carried in the urine without being derived from any of the urinary organs; indeed, without any infection of the urinary tract.

If, in connection with the clinical evidences of tuberculous cystitis, it is impossible to detect bacilli in the urine by means of the microscope, it is advisable to accomplish sterile catheterization of the bladder, draw the urine, centrifugalize and inject the sediment into a healthy guinea-pig, which shows tuberculous infection within two or three weeks, if positive.

Treatment.—Comporting with the more hopeful outlook for tuberculous subjects in general, vesical and urinary tuberculosis should no longer excite the pessimistic hopelessness that they formerly did. By the judicious administration of general and local measures, an untold number of sufferers have been reclaimed to either comfortable living or to complete recovery.

The various hygienic influences suitable for tuberculosis in general are indicated, but it is probable that more good can be accomplished by local measures here than in the other instances; and this in the face of the formerly accepted doctrine that it was best to avoid local instrumentation for either diagnosis or treatment, in urinary tuberculosis.

Any local measures adopted should be as little irritating as possible; but this does not indicate the exclusion of the catheter or the cystoscope, when necessary. Obstructive conditions of the urethra should be done away with, securing free transit for the urine; for which dilating is preferable to cutting. Iodoform emulsion, with some bland oil, such as liquid vaselin, as a vehicle, is not only soothing but markedly beneficial in the majority of instances. It is injected daily, either with or without

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the aid of a catheter, and is allowed to remain as long as possible. The formaldehyde group of medicaments is contra-indicated (the urine being already acid and sterile, with the exception of tubercle bacilli), but creasote and guaiacol, in full dosage, are often beneficial. The use of air or oxygen in the bladder, injected in connection with air-cystoscopy, seemed, in itself, to have a beneficial influence in certain cases of the author. Tuberculin injections are advisable in this condition, as they are in a similar infection elsewhere.

Surgery has a well-defined position in tuberculous cystitis, but it is chiefly related to the surgery of the contributary factors—of the kidneys, ureters, testes. Experience has proved the justification of removing the original focus, if it be a primarily-involved kidney or kidney and ureter; or, occasionally, the worse of two tuberculous kidneys, relieving the sufferer of a suppurating and infected organ that is doing no good, but is undermining the health and inciting infection in the organs below it. Many tuberculous bladders have recovered after such application of surgery. Permanent vesical fistula may become a necessity of the later stages of tuberculous ulceration, draining the bladder through a supra-pubic opening in the male, or through the vagina in the female.

Curetting the vesical membrane, after supra-pubic access, with direct application of strong bichloride solution, is claimed by Guyon to give much assistance.

The Intradermo-Reaction to Tuberculin in Animals.

By Professor G. Moussu, Veterinary School, Alfort, and Dr. Ch. Mantoux, Graduate of the Hospitals of Paris and Medical Consultant at Cannes Le Cannet.

The following are the conclusions which we consider possible to be drawn from this study:

1. The intradermo-reaction to tuberculin, as we have defined it, has shown itself in our investigations quite sensitive enough to reveal tuberculosis in the animals (cattle, hogs, goats).

2. The intradermo-reaction betrays itself by the evolution of a local manifestation, characterized by thickening of the skin, edema (in bovines), and sometimes the appearance of a central red spot (in hogs).

3. This local reaction does not usually cause any general disturbance, little or no fever, no loss of appetite, little or no loss of milk.

It develops without any change in the ordinary conditions of the life of the animals, and without its being necessary to take any measures or special precautions.

4. It has none of the disadvantages of the ocular and cutaneous reactions, and presents all the advantages of the subcutaneous injection of tuberculin.

5. It reduces the obligations of the operator to a minimum, by dispensing with every preparatory or supplementary measure (taking of temperature, denudation of the skin, etc.).

6. It is applicable to every kind of domestic animal.

Tuberculins and the Measure of Their Activity.

By Professor A. Calmette, Pasteur Institute, Lille.

Since Robert Koch prepared his first tuberculin, now by common consent called old tuberculin (alttuberculine, or tuberculine brute), efforts have been made by means of various processes to obtain a purer and more active substance. Koch's old tuberculin, which consists of a simple glycerinated extract of bouillon cultures,

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sterilized by heat, and concentrated in the water-bath down to one-tenth of the original volume, then filtered through thick paper, or a Berkefeld, unfortunately contains, besides the secretory products of the tubercle bacilli, a large quantity of foreign substances (albumoses, peptones, salts of glycerin), which are thus capable of producing a temporary rise of temperature when injected in non-tuberculous subjects, and thus making the effects due to the tuberculin itself. Before long Koch himself tried to overcome this defect by advising the use of the tuberculins TO and TR, obtained by mechanically crushing the dried bacilli and then separating by means of slightly alkaline water the soluble and insoluble products. Other authors, especially Klebs, Buchner and Hahn, Behring, Landman and Beraneck, by means of various chemical products, isolated from the cultures a variety of substances (tuberculocidine, tuberculo-plasmine, tuberculosine, etc.), which are quite different from the old tuberculin, and do not appear to possess the same physiologic and therapeutic properties. In order to preserve, as far as possible, the secretory products of the bacilli, Denys and Buden, of Louvre, confined themselves to cultures filtered through a Chamberland, while Maragliano and von Ruck preferably employed a simple aqueous extract of bacilli without glycerin. These various attempts all tend to show a great desire on the part of pathologists and clinicians to obtain a product which would possess all the advantages of Koch's old tuberculin, without producing the disturbing effects due to the large number of impurities which it contains.

After numerous experiments, I finally prepared for therapeutic use a particularly active and relatively pure tuberculin, called tuberculin CL, which can be introduced intravenously into the body of a healthy animal in large doses without producing any elevation of temperature, which is quite impossible with any of the other tuberculins. As much as 50 centigrams may be injected at a single dose into the jugular vein of a healthy animal of the bovine species without producing any reaction; on the other hand, if the same injection, in the same dosage, is repeated three times, at intervals of six to ten days, the animal is observed in from five to twelve hours after the third injection, to react by a rise of 1.8° to 2.5° of temperature, just as if it were tuberculous; and what is then more interesting, the animal evidently acquires a high degree of resistance to artificial tuberculous infections. The intravenous injection of a dose of virulent bovine tubercle bacilli, sufficient to produce, without fail, an acute fatal miliary tuberculosis in control animals, in from four to six weeks, merely produces in an animal prepared by previous injections of tuberculin, a chronic and slowly-progressing tuberculosis. This tuberculin is obtained by centrifuging in vacuo, and at a lower temperature, entire cultures of the bovine bacillus. The product is then filtered in order to separate the bodies of the microbes, precipitated three times with alcohol and ether, redissolved in water and dialyzed until all the precipitants and salts have been completely eliminated. The colloid substances which remain on the dialyzer are then precipitated once more with alcohol and ether, and dried in vacuo. Hence the active substance is not modified by being subjected to heat or any other chemical treatment, except precipitation with alcohol and ether, and its activity can then be determined by comparing it with the other tuberculins, or with a high degree of accuracy by the method of direct inoculation into the brain of a healthy guinea pig, which was recommended by von Lingelshein. It is thus found that 0 gr., .0008 tenths of a milligram of this tuberculin CL suffices to kill a healthy guinea pig; whereas almost ten times as much of the alcoholic precipitate of Koch's old tuberculin, or 0 gr., .008, is required to produce the same result. This tuberculin CL is very well borne by tuberculous patients. Physicians who have experimented with it in hospitals and sanatoriums, according to my directions, have obtained excellent results. It does not cure tuberculosis any more than

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any other tuberculin, but it evidently delays the progress of the disease, and endows the organism with resistance to the infection.

In order to obtain the best results with tuberculin CL, very small doses, one thousandths of a milligram, should be employed at first, and the dose gradually increased by fractions to one- to three-thousands, hundredths, and tenths of a milligram—administering the injections at intervals of ten or twelve days, in order rigorously to avoid a reaction of more than ½° C. At the same time an effort should be made to maintain a constant increase of the opsonic index over the index of the previous injection; or at least to maintain it at the same level. By measuring the patient's opsonic index it is possible, as Wright has shown, accurately to follow the gradual rise of the defensive processes of the organisms.

An experimental study of tuberculin, prepared according to the above directions, shows that the substance in vitro possesses an affinity for the lipoids (probably identical with lecithin), which are almost constantly contained in the serum of tuberculous human beings and cattle. Elsewhere I have shown the importance of this reaction,* which can be demonstrated by utilizing the fact that cobravenin is rendered active by the free lecithin of serums; hence the tuberculin is clearly indicated, not only for the diagnosis of the different forms of tuberculosis, but also for determining the affinity of the patient's serum for the secretory products of the tubercle bacilli.

Its systematic employment enables the clinician to observe the effects of tuberculin medication accurately—a thing which until recently has been exceedingly difficult or impossible.

Human and Bovine Tuberculosis. With Special Reference to Treatment by Different Kinds of Tuberculin.

By Dr. Nathan Raw, Physician-in-chief, Mill Road Infirmary, Liverpool.

The special objects of this paper are:

First: To attempt to more carefully classify the various tubercular lesions of the human body, and to investigate the origin of infection. And—

Secondly: To consider the effects of treatment by different varieties of tuberculins, prepared from various sources.

Up to the present time, it has been the almost universal practice to classify all tuberculosis as of one common origin; in other words, to adopt the doctrine of "the unity of tubercle."

Our great master, Robert Koch, in his last authoritative lecture in 1901, said, that "human and bovine tuberculosis were distinct and separate diseases, and that bovine tuberculosis, if conveyed to man, could not set up generalized tuberculosis in the human body."

Prolonged and careful experimental research has demonstrated beyond doubt that the contention of Koch was right when he affirmed that human and bovine tuberculosis were not identical, but it has been demonstrated that the great scientist was in error when he said that bovine tuberculosis could not be communicated to the human.

It will be my endeavor to show that a large amount of tuberculosis affecting the human body is of bovine origin, and that consequently a different line of treatment is required, as compared with the treatment of pulmonary tuberculosis.

During the last fifteen years, I have had the opportunity of observing over 5,000 cases of tuberculosis, and of this number, over 3,000 have died in hospital. Careful

*C.-R. Academie des Sciences, 30 mars et 25 Mai, 1908.

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pathological examinations have been made in a very large number of these cases, and my conclusions have been formed from a close study of these clinical and pathological manifestations.

I have no reason to modify my views as set forth in 1903, viz.: "That human and bovine bacilli are divisible into two distinct types of a common species:

(1) Typus humanus.

(2) Typus bovinus.

Another fact of the most profound importance in studying this problem is, that for centuries, man has been accustomed to feed upon cattle and their products: milk, butter, cheese, etc., and in this way the human body has become tolerant to bovine tubercle bacilli.

I believe that man is attacked by two distinct varieties of tubercle, one conveyed by infection from person to person, the other by receiving into the body bovine bacilli from infected food.

In other words, the human body is susceptible to both forms of tubercle.

Briefly speaking, I would say as the result of my observations, that:

(1) Tubercle bacilli of the typus humanus produce:

- (*a*) Pulmonary tuberculosis.
- (*b*) Ulceration of intestines.
- (*c*) Tuberculous laryngitis.

(2) Tubercle bacilli of the typus bovinus produce:

- (*a*) Tuberculous peritonitis.
- (*b*) Tuberculosis of lymphatic glands.
- (*c*) Acute miliary tuberculosis.
- (*d*) Tuberculous joints.
- (*e*) Tuberculous meningitis.
- (*f*) Lupus.

Clinically, these various lesions seem to be antagonistic to each other, so that a person who has been attacked by typus humanus will not be likely to be attacked by the bovine group, and vice versa.

This differentiation of the clinical manifestations of tubercle has a most important bearing on treatment.

In addition to the accepted treatment by the open-air method, which is of immense value in all forms of the disease, I am convinced that tuberculin is a necessity to thoroughly eradicate the disease from the blood, and to produce an artificial immunity.

Koch's Tuberculin R., or the new tuberculin, has in my hands proved of little value in the treatment of pulmonary tuberculosis, although it is of the greatest possible service in treating all infections of a bovine origin, such as glands, peritonitis, meningitis and lupus. When we consider that it is prepared from human tubercle, it is what we would expect if my theory is a correct one, as it acts by producing an immunity, and is exactly what we observe in immunizing cattle.

In the treatment of the human infections, such as pulmonary tuberculosis, a tuberculin prepared from bovine sources is necessary, and in my hands has proved of the greatest assistance, more especially in early cases.

Altogether, I have treated about 200 cases of tuberculosis by tuberculins.

A detailed statement of all will be included in this paper—with, on the whole, most encouraging and satisfactory results.

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It is my firm opinion that pulmonary tuberculosis is the direct result of inhaling vitiated air, containing tubercle bacilli, or in some cases by absorbing them through the alimentary tract, and I am also convinced that when tuberculosis is eradicated from dairy cows, it will be a rare event to see a case of surgical tuberculosis in the human subject.

Investigations into the Relations of Human and Bovine Tuberculosis and Tubercle Bacilli.

By Doctors Johannes Fibiger, Professor of Pathological Anatomy, University, Copenhagen, and C. O. Yensen, Professor of Pathology, Royal Veterinary High School, Copenhagen.

The authors give the results of investigations on a series of tubercle bacilli isolated from man and from cattle, comprising studies on the virulence of the bacilli, their morphology and biology.

The virulence of bacilli upon cattle was tested from twenty-nine cases of tuberculosis in man and upon rabbits from twenty-two cultures, eighteen isolated from man, four from cattle. Morphological studies of bacilli were made on fifteen cultures from man and thirteen from cattle. The characters of growth of twenty-nine cultures from man and from cattle were compared. The chemical reactions of bacilli from thirty-two cultures in glycerin bouillon were tested. The growth of bacilli from thirty-six cultures on media free from albumin were studied.

Summing up the results, the authors can not admit a sharp separation between the ordinary two well-known types, though it is true that the majority of cultures isolated from cattle possess the qualities described as peculiar to "Typus bovinus," and the majority of cultures isolated from human sputum correspond to the "Typus humanus."

There are some cultures, however, that must be considered as transition forms, having some of the characteristics of the bovine and others of the human type.

A Contribution to the Study of Tuberculous Immunity. (Negative Reinoculations.)

By Doctors Jules Courmont and A. Lesieur, Lyons.

The reinoculation of tuberculosis at another point on the body of an animal which is already tuberculous may give a positive or a negative result. Opinions on this point are divided.

We have tested this question on the *guinea-pig*, using very virulent cultures of bovine bacilli with our *transcutaneous method of inoculation* (Société de Biologie et Journal de Physiologie et de Pathologie générale, 1907). Favorable conditions are found in the slowness of the process, the insignificance or absence of local lesions, and the magnitude of the caseous glands. If a guinea-pig which has been tuberculous for from thirteen to twenty days is inoculated under the skin, the glandular reaction is feebler than in control animals; but these results of subcutaneous inoculation are not conclusive.

The results are very clearly defined when two successive *transcutaneous* inoculations are made at intervals of at least two weeks; (this is accomplished by simply rubbing the culture on the skin). The reinoculation is negative. No local lesion whatever is produced; the glands do not become tuberculous; they scarcely hypertrophy and are never caseous. No general effect is produced either in the spleen or elsewhere. On the other hand, if the animals are allowed to live, the first inoculation runs its normal course; it is accompanied by general lesions and ultimately

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kills the animal. This proves that a lesion *in process of evolution* prevents the evolution of a second inoculation.

Our experiments suggest the following question: Is a tuberculous human being during the period of evolution immune to reinfection?

Experiences with the Cutaneous Tuberculin Reaction on 200 Children.

By Dr. C. von Pirquet, Vienna.

First the technique of the different new methods was described, and the advantages of the skin reaction in comparison with ophthalmo and dermo-reaction stated. Of about 1,600 children, who in two Vienna children's hospitals underwent the skin proof, 200 died, and were carefully dissected.

Sixty-eight cases of them were found to be positive in the reaction.

Sixty-six of them showed in the autopsy macroscopical tubercles; only in two cases the result of the dissection was uncertain, in one of which was found a pleuritic adhesion of the pericardium. Therefore, one came to the conclusion that of a positive skin reaction an infection of tuberculosis can be concluded.

A negative reaction was found in the following: (1) In all (109) remaining cases of negative autopsy; (2) in several cases of fatal tuberculosis, particularly in older children, when the proof was only made some days before death; (3) in cases of tuberculosis when the proof was made during the illness of measles; (4) in some cases in which none of the above causes could be given. (It especially occurred, as was stated by other experiences, in cases where the tuberculosis was slight, and was at inactive; ofter in those by a second skin proof or by injection of tuberculine a secondary positive reaction was found.)

Frequency of Tuberculosis in Childhood.

By Dr. C. von Pirquet, Vienna.

As a result of 1,400 examinations with the cutaneous tuberculin test at Escherich's clinic, a table has been prepared which shows the increase of infection with tuberculosis from year to year. These results have been compared with the statistics made with the *post-mortems* of children.

The significance of the different kinds of reactions which appear in early and later childhood is discussed.

I propose international statistics to be prepared in the following manner:

That children of all ages, for instance, kindergarten and school children, be tried with the cutaneous test on the first day; on the following day all should be inspected. Those who show a reaction should be noted as belonging to the class of "early reaction," which practically means having had the infection in the latter years. A week later those children who showed no reaction on the first trial should be again tried. A great percentage of older children will now react, and they belong to the class of "secondary reaction," which generally means having had the infection in previous years. Those children who have not reacted on either of the above occasions belong to the third class, which can be considered as those practically free of tuberculosis.

In order to have a certainty with regard to the third class, one could inject the non-reacting children on the following day with one milligram of tuberculin, according to the proposal of F. Hamburger, and inspect those children the next day as to the local subcutaneous reaction. This trial, of course, would only be

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possible in hospitals, whereas in schools one must be contented with the cutaneous trials, which can be made without any inconvenience to the children.

In this way one could take note in the different towns of the percentage of infection, and the ages at which such infections occur, and, consequently, could form conclusions as to hygiene

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Some Clinical Observations on the v. Pirquet Reaction in Children.

By Dr. Henry Heiman, New York.

Fifty-seven children were vaccinated according to the v. Pirquet method at the Mt. Sinai Hospital in the Children's Service of Dr. Koplik and myself. Twenty children showed a positive reaction, and 37 a negative one.

The 20 children that gave a positive reaction suffered from the following morbid conditions: Tuberculous adenitis, 3 cases; tuberculous meningitis, 2; tuberculous peritonitis, 2; solitary tubercle of the brain, 1; pulmonary tuberculosis (probable), 2; pleurisy with effusion, 4; broncho-pneumonia, 1; glioma of retina and multiple dactylitis, 1; amaurotic family idiocy, 1; rickets, 1; intestinal intoxication, 1, and sarcoma of the kidney, 1.

The 37 negative cases included the following diseases: Amblyopia congenital, 1; chronic arthritis, 1; syphilitic arthritis, 2; intestinal auto-intoxication. 1; chronic bronchitis, 3; bronchopneumonia, 3; enterocolitis, 2; empyema, 3; pulmonary gangrene, 1; amaurotic family idiocy, 1; congenital idiocy, 1; marasmus, 1; tuberculous meningitis, 8; acute nephritis, 1; pleurisy with effusion, 1; dry pleurisy, 1; lobar pneumonia, 1; pseudoleukemia (v. Jaksch), 1; pyelitis, 1; syphilis, 1; cerebellar tumor, 1, and typhoid, 1.

Special attention is to be drawn to the cases of tuberculous meningitis. Eighty per cent (8 out of 10) gave a negative reaction. This is probably due to the fact that the vaccination was performed during the terminal stage of the disease, when the absence of antibodies or bacteriolysins prevented the occurrence of a positive reaction.

An Aid to the Diagnosis of Tuberculosis in Infancy and Childhood by Means of the Cutaneous Inoculation of Diluted Tuberculin (Pirquet Method).

By Dr. Louis Fischer.

The diagnosis of infantile tuberculosis is frequently obscure. Associated with the acute infectious diseases, or as a sequel to them, the diagnosis is difficult to make. Syphilitic manifestations frequently present clinical pictures greatly resembling tuberculosis. The inoculation of the cutaneous or von Pirquet method has proved an aid in strengthening the suspicion of latent tuberculosis. The ocular reaction of Calmette has been attended by severe ocular complications, both in this country and abroad. No such danger has been recorded with the von Pirquet method.

After scarifying three small areas of skin, two of which are inoculated and a third left as a control, there should be found in twenty-four hours, or at the latest forty-eight hours, an elevated papule, about ten millimeters in width, which may be called a positive reaction. There is no rise of temperature nor chill, and no general systemic disturbance. No unpleasant after-effects have been recorded. If no reaction takes place after the first inoculation, a second inoculation may be given several weeks later without any danger or ill-effects. The reaction, if positive, will be visible in very young infants in about five to seven days. In older

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children it will sometimes remain several weeks. The reaction was positive in tubercular meningitis, tubercular coxitis, as well as in pulmonary tuberculosis, and in a tubercular osteomyelitis.

On the Ophthalmo-Reaction to Tuberculin.

By Dr. Fernand Arloing, of Lyons.

In this communication the author has confined himself to the report of personal clinical and experimental facts.

From the clinical standpoint, he was, in collaboration with M. Dumarest, one of the first to call attention to the thermic reaction and the general phenomena that follow the instillation of tuberculin into the eye. In some cases he has seen the conjunctival reaction accompanied at the time by more or less marked dilatation of the pupil; much more rarely myosis was observed under the same circumstances. In his earliest researches he also observed, without at the time offering any explanation, a phenomenon which he regarded as a kind of local anaphylaxis, namely, that a patient in whom the ophthalmo-reaction was negative at the first instillation may react to a second, or even a third test.

With regard to the interaction of tuberculin treatment and the ocular test, it appears that a previous ocular reaction is frequently revived by the subcutaneous injection of medicinal doses of tuberculin; but this does not constitute a contra-indication to the employment of the two procedures in the same subject. It also appears that a previous impregnation of a patient with tuberculin for therapeutic purposes has a very variable effect on a subsequent ocular test.

The ocular reaction is not free from danger. It is occasionally accompanied by ocular complications, such as prolonged conjunctivitis and ulcerations of the cornea. The previous instillation of 1 to 3,000 adrenalin is capable of counteracting certain excessively violent or prolonged reactions.

Fernand Arloing, in the second part of his communication, gives the result of his experimental researches on the pathogenic mechanism of the ocular reaction to tuberculin: Non-tuberculous rabbits impregnated with various microbic poisons (tuberculin, typhoid, staphylococcus and diphtheritic toxins) gave positive ocular reactions. The rabbit was, in fact, more actively sensitized by the typhoid toxin than by tuberculin, or at least to an equal degree. In the same manner, horses used for the production of antidiptheritic and antitetanic serum reacted positively under certain conditions.

These experimental facts, which show that a positive ocular reaction to tuberculin may be obtained in non-tuberculous subjects, accord with the clinical cases of positive reactions in the non-tuberculous suffering from typhoid, staphylococcic, syphilitic, or some other infection. On the strength of these two series of observations, Fernand Arloing believes that the ocular reaction to tuberculin, which represents a local vasomotor reaction, may occur whenever the vasomotor centers of an individual are in a condition to react by vaso-dilatation by reason of their being impregnated with a microbic toxin. Hence the ocular reaction to tuberculin occurs in individuals who are in a state of intoxication, *i. e.*, whose organism is impregnated and sensitized by a toxin of any kind. The ocular reaction is therefore not absolutely specific from a theoretical sense, but has merely a relative value.

In the third portion of his paper the author takes up a comparative study of the ocular reaction and the bacterial serum-agglutination test.

These two reactions are often found in the same individual; while on the other hand, one may be present when the other is absent; or, finally, one may be more intense than the other.

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The study of the symptoms and of the clinical course in these cases of contradictory reactions has led the author to attribute a different value to the ophthalmo-reaction from that which belongs to the serum-reaction. The ophthalmo-reaction indicates that the organism is intoxicated with tuberculin; the serum-reaction on the other hand, like agglutination reactions, is generally recognized as showing a defensive reaction of the economy, while the intensity of the reaction measures the degree of immunity of the individual to the tubercle bacillus.

It appears, therefore, that in practice, at a certain point in the evolution of a tuberculous disease, a positive ophthalmo-reaction with a negative serum-reaction indicates a doubtful prognosis; while the contrary would indicate a favorable outcome. When the two phenomena are practically equal in intensity, it shows that the organism is in a state of indifferent equilibrium, and that the disease may either end in recovery or the patient succumb to unfavorable influences.

Such is the significance which Fernand Arloing attributes to the ocular reaction, but no positive conclusion can be drawn in such a complicated question.

To sum up, the ocular reaction is a convenient and easily available diagnostic procedure; it sometimes fails in patients who are certainly tuberculous; and on the other hand may occur in subjects not suffering from a bacterial infection. Its diagnostic value, although quite considerable in practice is, nevertheless, not absolute. The test is not always harmless. It has not proved itself superior to the bacillary serum-agglutination, which has the advantage over the ocular test of being absolutely harmless, more constant, and more delicate. Finally, the ophthalmo-reaction is an indication rather of the degree of intoxication of the organism, while the serum-reaction reveals the forces available for defense against the infection.

Contribution to the Question of Percutaneous Infection.

By Dr. Isidora Spitzstein, Budapest.

We know that Prof. Krehl, Heidelberg, discussing the furuncles produced by Garré through percutaneous application of staphylococci and the positive percutaneous infection experiments with guinea-pigs of the Austrian Pest Committee in his "Patho-Physiology" (1906), explains these successful infections through the apparently intact skin by considering it probable that the inunctions produced slight injuries of the surface of the body and of the epithelium of the skin-glands. Prof. Cornet also emphasizes in his book "Die Tuberculose" (1907), that the successful issue of the cutaneous infection experiments (sputum, etc., was rubbed into the skin of the cheeks, nose, etc.), depended entirely upon whether superficial injuries of greater or less extent preceded the infection.

The experiments of C. Fraenkel, "The Activity of Tubercle Bacilli Through the Intact Skin, Hygienische Rundschau" (1907), again called our attention to the question, inasmuch as this investigator succeeded to produce general tuberculosis in guinea-pigs by treating them through the intact skin percutaneously.

I performed my series of experiments with this mode of infection in the laboratory of the Königin Louise Sanatorium; I employed a type of animal less susceptible for tuberculosis, the rabbit.

In this preliminary communication I can report only concerning the result with nine rabbits.

The skin of the abdomen of these nine rabbits was first carefully shaven; forty-eight to seventy-two hours afterwards portions of a well-tested, virulent, pure culture of the human tubercle bacillus were rubbed into this area with the greatest care; the procedure was carried out with such gentleness that even the slightest

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traumatic injuries of the skin and of the walls of the canals going into its depth (the hair follicles, sebaceous gland ducts) were avoided. One of the animals died after two and one-half months, but without development of tuberculosis. The other eight animals continued to live; four were killed after three months, and four after four months. Neither local nor regional changes could be demonstrated in any of them. Nor could tuberculosis be demonstrated in any of the internal organs. Neither did the kidneys nor lungs, which in rabbits are predisposed to the disease to an extent, show any changes.

My experiments, which are not by any means finished, lead to the following conclusion thus far: If percutaneous infection is at all possible it certainly is the most unfavorable mode of infection for the tubercle bacillus; in the case of the rabbit particularly so, as it is decideddly refractory to the disease.

Transcutaneous Inoculation of Tuberculosis.

By Doctors J. Courmont and Lesieur, of Lyons.

From a large number of experiments we draw the following conclusions:

(A) *The Facts:* 1. In case of the guinea-pig, the calf and the rabbit, the skin, although apparently intact or deprived of the hair, readily allows the tubercle bacillus to pass through under certain conditions.

2. The principle conditions are the following: The bacillus must be sufficiently virulent; it must not be enclosed in sputum, in fecal matter or in (tuberculous) lesions; but even under these conditions the experiment may be successful, especially with sputum containing bacilli.

3. If inoculation is positive the skin reacts in one of three ways: In about one-third of the cases it shows no trace whatever of the passage of the bacilli—the skin has not been injured; in another third it presents merely a little induration or insignificant scabs; these lesions, however, are histologically tuberculous. Finally, in another third of the cases, warty tubercles, although very small and discrete, are observed.

4. In the case of the guinea-pig and the calf the neighboring glands become tuberculous even in the absence of any cutaneous lesion. In the rabbit the lymphatic system escapes, whether there be a cutaneous lesion or not. This was to have been foreseen.

5. General tuberculosis develops most frequently in the rabbit and in the guinea-pig if the bacilli are sufficiently virulent; but in any event it is much slower than after subcutaneous inoculation.

6. In the rabbit the local as well as the general lesions show a marked tendency to cicatrization.

7. In the guinea-pig, when inoculated on the inner aspect of the thigh, the inguinal glands are more severely involved than the crural glands; they become enormous, and very frequently suppurate. This constitutes a slight difference from what is observed in tuberculosis following subcutaneous inoculation. In addition, the glands on the opposite side become involved more quickly and more often than after subcutaneous inoculation. The glandular lesions from subcutaneous tuberculosis do not coincide accurately with the lesions observed in the transcutaneous form.

(B) *Observations:* 1. The skin itself, although apparently intact, is far from offering an impassable barrier to the passage of the tubercle bacillus. (This is probably due to the hair.) Hence this portal of entry must not be neglected in medical and veterinary practice. Many tuberculous infections may result from a

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transcutaneous inoculation (abrasions, epilations, minute lesions, etc.). This principle should be utilized in prophylaxis.

2. Since the bacilli are capable of passing through the skin without leaving any trace, the absence of a cutaneous lesion is no argument against this mode of invasion.

3. These observations furnish additional proof how variable and unexpected may be the origin of visceral, especially pulmonary tuberculosis. In addition to the pulmonary and the more frequent intestinal origin, there is a possibility of entrance through mucous membranes and skin. A rabbit presenting pulmonary tuberculosis of transcutaneous origin without either cutaneous or lymphatic lesions furnishes an example of tuberculosis originating at a point far removed from the respiratory tract through a port of entry which it is impossible to discover. This is the most important deduction from our experiments.

4. By means of transcutaneous inoculation one can produce experimentally in man either warty cutaneous tuberculosis or the human scrofulo-tuberculous lesions (inoculation with bacilli of low virulence without general infection).

5. This method can not be substituted for subcutaneous or peritoneal inoculation, either for purposes of diagnosis or for inoculating organs in series.

Conclusions from 1087 Conjunctival Tuberculin Tests by a Uniform Method.

By Dr. Edward R. Baldwin, Saranac Laboratory, Saranac Lake, N. Y.

The author has collected reports from forty clinicians and sanatorium physicians to whom the same tuberculin was sent, together with directions to follow a uniform method of testing and of recording the results. Two solutions of ⅓% and ½%, respectively, of dried, purified old tuberculin were issued, accompanied by an eye-dropper graduated to 0.25 c.c. Contraindications to the test were suggested where eye disease was present. Repetition only in the opposite eye was advised with the ½% solution in case the weaker solution failed to react.

The reports comprised 887 individuals, in 190 of whom a second instillation was made in the opposite eye, and 10 in the same eye. There were 310 cases of tuberculosis in some form, including 24 healed pulmonary cases. Of all these, 218, or 70%, reacted positively, the larger proportion (79.2%) being among the second-stage cases. Of 265 suspected tuberculous subjects, 35.9% reacted, and of 127 patients suffering with other diseases, 14.1% reacted. Finally, of 185 supposedly healthy individuals, 18.3% reacted. Of the total number, 15.2% were children under 15 years. Altogether there were 24 severe reactions reported, 10 of which persisted beyond five days. One instance of keratitis followed in a scrofulous patient. Eighteen per cent of the second instillations in the opposite eye produced reactions, and 100% of those in the same eye.

The cutaneous test was subsequently applied in 52, and the subcutaneous in 89 cases, followed by a considerable increase in percentage of positive reactions in the suspected class.

The conclusions are:

1. The conjunctival tuberculin test performed with weak solutions by a single instillation has some value in confirming the presence of tuberculosis in the early stages.

2. It has little value when the symptoms of tuberculosis lead only to a suspicion.

3. Its value in distinguishing "active latent" from healed tuberculosis in apparently healthy persons has not yet been determined.

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4. Repetition of the test in the same eye has no advantage over the cutaneous and subcutaneous tests in the percentage of reactions produced, and may be misleading and dangerous.

5. Repetition in the other eye by the author's method offers so little advantage that it can not be recommended.

6. The conjunctival reaction is unreliable for prognosis.

7. Used with the proper precautions, danger to the eye is slight and need not preclude the test when other methods are inapplicable, as when fever is present. It should be restricted to adults, since the cutaneous test has been found equally valuable for children, and is harmless.

8. The cutaneous test by the simultaneous use of dilute and strong tuberculin offers a method of at once detecting or excluding tuberculous infection with no danger or inconvenience. Experience is needed to show the value of this method.

9. The subcutaneous test should be restricted to those cases where a focal reaction is desired and when the other tests result negatively.

The Application of the Cutaneous and Conjunctival Tuberculin Reactions in the Diagnosis of Tuberculous Infections.

By Professor A. Calmette, Lille.

Of 2,894 clinically tuberculous patients 92.05% gave positive reactions to the conjunctival test; of 1,081 persons with clinical suspicion of tuberculosis 57% were positive, and of 2,328 persons either apparently healthy or without suspicion of tuberculosis, 16.8% were positive with the same test.

Of 55 children or adults who had given positive conjunctival reactions, although not previously suspected of tuberculosis and who came to post-mortem examination, macroscopic tuberculosis lesions, most frequently in the tracheo-bronchial glands were detected in 49.

In 6,303 tests, the only complications noted were in 3 phlyctenular keratitis, in 20 conjunctivitis, and in 72 reactions prolonged beyond three weeks. In no instance did graver disturbances or permanent ocular lesions or visual defect occur.

In general, early reactions are observed most frequently with suspected tuberculosis, and late and slight reactions with developed tuberculosis. Cachectic patients and those with acute miliary tuberculosis, tuberculous peritonitis and hypertoxic tuberculous infections react very feebly, late or not at all with the conjunctival as well as with the cutaneous and subcutaneous tests.

Experimental and cliniical observations demonstrate that the ophthalmic test reveals almost always active or developing tuberculous foci, but is negative with simple carriers of bacilli and with those with calcified or healed lesions, who it would seem often react to the cutaneous test.

Repeated instillations of tuberculin in healthy subjects never give a reaction when the interval betwen successive instillations does not exceed five days. Local anaphylaxis disappears in about twenty-five days.

In general observed ocular reaction occurs in patients treated with subcutaneous injections ends on the o until over a month after suspension of treatment.

Co subcutaneous in ss may reappear as the result of subcutaneous injection of tub sis do not coincide ac weeks after submission to the ophthalmic test.

ne year the cutaneous test which at this period gives 20%

(B) *Observations:* I. tals is to be preferred as the more convenient and inoffen- offering an impassable ba age the number of persons susceptible to the cutaneous probably due to the hair.) ears becomes 60%, and with adults the number medical and veterinary pract.

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giving positive reactions is so enormous that no useful indications for early diagnosis can be drawn. Hence, in spite of its inconvenience, the conjunctival test is to be preferred for children over one year and for adults. In hospitals the simultaneous employment of both tests is to be recommended.

A positive result by the double test furnishes almost conclusive evidence of the existence of an active tuberculous focus. Other well-recognized clinical and laboratory methods of diagnosis still hold an important place.

A New Method of Producing in a Tuberculous Human Being the Cutaneous Tuberculin Reaction.

By Professor T. Liginierres, Argentine.

1. The cuti-reaction of von Pirquet, and the ophthalmo-reaction of Wolff-Eisner and Calmette. The technique and significance of the two reactions are given in detail.

2. The Author's Method: If a few drops of crude tuberculin are rubbed into the skin of a tuberculous patient, freshly shaved, without any scarification, a most characteristic reaction is produced. The author proposes to call von Pirquet's test, cuti-reaction, and his own modification dermo-reaction. Neither of these reactions produce the slightest thermic or general disturbance; they may be repeated successfully to an almost unlimited extent, at very short intervals. The two reactions may be combined by rubbing the tuberculin on the entire surface, instead of merely placing a small quantity on the superficial incisions. In cattle, tuberculin rubbed into the skin after shaving, produces in twenty-four hours to forty-eight hours a specific inflammatory reaction of variable intensity, from simple redness to edematous tumefaction, with or without vesicular eruption, terminating in the formation of crusts. The reaction is easily produced under the same conditions in the tuberculous rabbit and guinea-pig, but it usually takes the edematous form.

There is a possibility of early diagnosis without scarifying the experimental animals; in man the author's dermo-reaction is also capable of doing excellent service.

Technique of the Dermo-reaction—The skin on the inner surface of the arm at the level of the biceps is lathered with an ordinary shaving brush, over a surface of about 20 twenty square cms., and then shaved with a safety razor in every direction.

Advantages of the Safety Razor:

After removing the excess of soap with clean water, and drying the shaved surface with a cotton pledget, from five to six large drops of crude tuberculin (not diluted) are rubbed on the prepared surface. To hasten absorption, the skin is put on the stretch with the left hand, and rubbed with a finger on the right hand, protected with a rubber finger cot, or a small cotton tampon, held in a pair of forceps. Absorption of the tuberculin may be hastened by previously rubbing the surface with alcohol and xylol. This causes redness of the skin, and as soon as this dries the tuberculin is applied with friction.

Results of the Procedure—In normal individuals the skin remains entirely normal. In tuberculous individuals there is a specific reaction manifesting itself chiefly in an eruption, and apparent, as a rule, in twenty-hour hours, sometimes delayed for forty-eight hours, and in exceptional cases still longer. The treated surface is covered with papules ranging in color from a very pale pink mixed with yellow or gray to dark red or even purple. The base of each papule is surrounded

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by an areola of the same color. Sometimes the papules are very numerous and coalesce to form confluent little islands, or even a large red patch of an edematous appearance. The eruption may stop at the stage of a simple papule, which disappears in four or five days practically without leaving a trace, except to the sense of touch. When the reaction is more intense the eruption goes on the vesicular and occasionally to the vesico-pustular stage with the formation of true crusts. The latter is rare in man. The small vesicles with yellowish-white centers persist for several days, then gradually fade and by the end of a week disappear entirely, in almost every instance. Their disappearance leaves a small red or brownish spot which persists for weeks. This pigmentation is proportionate to the intensity of the eruption. The pigmentation is often accompanied by the formation of white epidermic pellicles or scales on the surface and around the papules; these scales sometimes assume the form of small epidermal crowns. Some itching attends the development of the eruption, as in the case of a vaccination; but fever and constitutional symptoms never develop.

Different Degrees of the Reaction—1. Isolated papules not exceeding ten in number. 2. More than two papules, some of them confluent. 3. Confluent papules forming a patch on all, or part of the treated surface. The intensity of the eruption must also be taken into account, the inflammatory action of the skin being variable in each of the three degrees of the reaction.

Significance—In general, and especially in adults, the cuti-reaction develops its characteristic degree of intensity during the first twenty-four hours. There are many exceptions to this rule. In young children, especially, the dermo-reaction may, in the beginning, be of the first degree, and in the course of several days go on to the second or even the third degree. Successive crops are sometimes observed in young subjects so that various stages of the reaction may be present at the same time. When the eruption appears in crops, the duration is longer than when the papules all come out at once. Observations on a number of patients, both normal and tuberculous, form the subject of a later paper.

Comparative Sensitiveness of the Ophthalmo-, dermo-, and Cuti-reaction in Man—The ophthalmo-reaction is the most sensitive of all the diagnostic procedures. The dermo-reaction and cuti-reaction are equally constant, except in cachectic cases, in which the clinical diagnosis is fortunately quite easy. (In the latter class the cuti-reaction sometimes proves positive after several attempts, giving it a slight advantage over the dermo-reaction in this class of cases). A positive dermo-reaction is more significant than a positive oculo-reaction. It always indicates the presence of tuberculosis. In ordinary practice the dermo-reaction should be employed first, and if it proves negative the diagnosis may be completed by means of the ophthalmo-reaction.

Advantages of the Dermo-reaction—Ease of application; painlessness; absence of danger of spontaneous infection, since the skin is not broken. The reaction when positive is absolutely characteristic, and therefore easily interpreted by beginners. A positive cutaneous reaction is of absolute value. In private practice the dermo-reaction should be employed first. If it is positive the diagnosis is asserted; if it is negative it is presumptive evidence against tuberculosis, and the diagnosis should be controlled by means of the ophthalmo-reaction. The dermo-reaction is particularly accurate in children. I have never seen the slightest ill-effect from its use; while the cuti-reaction is occasionally not well tolerated, and is, besides, difficult to interpret. As for the ophthalmo-reaction in young subjects, it may produce or revive, in a few rare cases it is true, permanent and very unpleasant ocular lesions.

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THE MEDICAL EXPERT WITNESS.

By Simon S. Bass, Esq., of the St. Louis Bar.

[An address presented to the Missouri Bar Association at the Annual Meeting held at Pertle Springs, Mo., September 12, 1908.]

To the President and Members of the Missouri Bar Association:

Gentlemen:

In presenting the indefinite and indeterminate question of expert testimony in criminal and civil cases, I am persuaded that the wisdom of the Missouri Bar Association may evolve some measure of relief through legislation or otherwise, if not an absolute remedy. Confusion and uncertainty prevail whenever the determination of important cases rests chiefly upon expert testimony.

An intelligent examination of the subject will develop the fact that one of the anomalies of the present time, as it evidently appears, is the procedure and practice prevailing in eliciting and weighing the value of expert testimony. It is one of those intangible facts in the trial of cases that neither judge nor jury can reduce to an exact certainty, and yet, upon its face, it may seem conclusive until controverted by an equal amount of the same kind of testimony. The dilemma is not entirely relieved in the effort to distinguish the character and ability of the expert witness.

It is patent to any one who chooses to inform himself, that expert testimony as now received in our courts, is looked upon by the public as irrational and of doubtful value. Bench and bar, press and pulpit, physician and layman, unite in condemnation. The present mode of procedure is nothing less than a reproach to the bar. As it is the function of this Association to uphold and strengthen the administration of justice, there is, in my opinion, nothing to which it could lend its aid more creditably than in an effort to remedy this evil.

I fully agree with the Honorable G. A. Endlich when, in discussing this very question, he says: "It is a good rule that requires a proposal to change any part of our legal procedure to be fortified with proof, first of all that there is a general desire or a compelling necessity for a change of some sort, and in the next place that the particular departure advocated is likely to be a betterment." Where it is clear that the present mode of handling expert testimony falls short of serving the purpose it is capable of serving and ought to serve, then a change of procedure becomes imperative.

Expert testimony is not an evil in itself, but the evil lies in the way and manner of handling it. I do not agree with Judge Foster (Address before N. H. Med. Soc., 11, H. L. R. 169) that "the supposed evils of the present system are much exaggerated, and to a great extent imaginary," and that "they can not be cured by any remedy."

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Upon the same line of investigation Mr. Endlich continues by saying: "The fundamental vice of our present mode of handling experts and their testimony is in its partisan character and tendency, and when not only the public and juries regard the generality of the experts employed, as they now are, as mere partisans for the side by which they are called, but many lawyers so treat them, and many experts consent to be considered and so consider themselves." I will add in this connection that when we find in the reported cases the strongest possible language used against this abuse, ought we not to demand a positive reform?

Mr. Justice Gray has this to say of expert testimony in People vs. Kemmler, 119 N. Y. 580 (1900): "The frequent spectacle of scientific experts differing in their opinions according to the side upon which they are retained, tends much to discredit such testimony, or to impair its force and usefulness, and inclines us to prefer the formation of an opinion upon the real facts, when the case is not one beyond the penetration and grasp of the ordinary mind." (Section 202, Rogers on Expert Testimony.)

Again, a judge of the Supreme Court of the U. S., in the case of Winnans vs. N. Y. & N. E. Ry. (21 Howard 101), has declared that "experience has shown that opposite opinion of persons professing to be experts may be obtained to any amount, and it often occurs that not only many days, but even weeks, are consumed in examination to test the skill and knowledge of such witnesses and the correctness of their opinions, wasting the time and wearying the patience of both court and jury, and perplexing instead of elucidating the question involved in the issue."

In Professor John D. Lawson's splendid work on the Law of Expert and Opinion Evidence, page 283, I find the following citations, concerning the value of expert testimony: in Middling's Purifier Co. vs. Christian, 14 Dill, 448, Justice Miller said: "I have no confidence myself in the impression produced by any number of *ex parte* affidavits of experts. My own experience, both in the local courts and in the Supreme Court of the United States, is that whenever the matter in contests involves an immense sum in value, and where the question turns mainly upon opinions of experts, there is no difficulty in introducing any amount on either side, and yet this class of cases is one in which there is value to be attached to experts." In Barrett vs. Hall, Justice Story said: "In all my experience I can scarcely recollect a single instance in which the general questions whether the principles of two machines were the same or different, has not produced from different witnesses equally credible and equally intelligent opposite answers." In a patent case in New York, in 1859, Ingersoll, J., in charging the jury, said: "In a case of this kind the opinions of witnesses who are experts are admitted, contrary to the general rule which required witnesses to testify only to facts. And I must say, gentlemen, so far as my experience extends, that it would be as well, if not better, that the opinions of such witnesses should be excluded from the considera-

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tion of the jury." In Hall vs. City of Fond du Lac, Cole, J., said: "Experience has shown that medical testimony is not always reliable any more than other testimony." In Carter vs. Baker, it was said that the testimony of experts was to be considered like any other testimony, and is to be tried by the same tests, and receive just so much weight and credit as the jury may deem it entitled to when viewed in any connection with all the circumstances. In Daniels vs. Foster, Dixon, J., said: "The unsatisfactory nature of such testimony is well known. The facility with which a great number of witnesses may be marshaled on both sides of such a question, calling themselves experts, and each anxious of displaying his skill and ingenuity in detecting the false or pointing out the true, and equally honest and confident that his own opinion is the only correct one, and yet all on one side directly opposing all on the other, admonished us of the fallibility of such testimony and of the great degree of allowance with which it must be received." In People vs. Morrigan, Campbell, J., said: "The experience of courts with the testimony of experts has not been such as to impress them with the conviction that the scope of such proof should be extended. Such testimony is not desirable in any case where the jury can get along without it, and is only admitted from necessity, and then only when it is likely to be of some value." In an Illinois case, Lawrence, J., said: "Persons who have had much experience in jury trials must have noticed how apt are witnesses called as experts to speak with great confidence when seeking to ascertain the unknown cause of certain effects by appearances which, to others, convey little meaning. Such evidence is often valuable, but as it relates to matter of theory and opinion merely it is entitled to less weight when the witnesses are so circumstanced that they have a strong interest in propounding one opinion or theory rather than another." In Hays vs. Wells, Maulsby, J., said: "Opinions have been admitted only where from the nature of the case they are the best evidence attainable; but, as a rule, where an issue is capable of being proved by facts, evidence of lesser degree or of more uncertain character ought not to be admitted. Liability of a witness to the penalties of perjury if he corruptly misstates facts, is one of the securities for truth which ought not to be removed, unless on necessity. And in proportion as opinion is admitted, that liability is removed." In Dole vs. Johnson, Foster, J., says: "In the multiplication of interests connected with the application of the laws of science which are daily growing more and more numerous and refined, it is hardly possible to dispense with the aid of experts in determining the rights of the parties. But it is greatly to be feared that an unwise generosity and liberality of construction has sometimes permitted an admission of this kind of evidence to an extent outside of the bounds of discretion and safety, and that perhaps more scrupulous regard for and estimation of the great importance of the office of an expert in the ascertainment of truth than has sometimes been exercised, has become necssary, not only

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for the vindication of justice itself, but also for strengthening the confidence of the public in its ministers and instrumentalities."

Upon this theme I quote from an able paper entitled "Medical Expert Testimony from the Viewpoint of the Bar," by I. V. Barth, Esq., of the St. Louis Bar, who, among other just opinions, said: "Just a few years ago the Supreme Court of the State of Missouri, confused by the irreconcilable conflict of opinions expressed by physicians in a cause involving the defense of insanity, took occasion to express itself in the following vigorous words:

"'And in concluding this paragraph I can not refrain from saying what many others in similar conditions have said, that courts, as the years go by, place a lessening reliance on the value of expert testimony in relation to the subject of insanity. Indeed, on this bench for a long period of years, we have had murder cases coming up from the largest city of this State, and wherever and whenever a distinguished expert and author on insanity was called on the witness stand, he invariably made out the defendant to be insane.'"

"Many law-writers have expressed unfavorable opinions of expert testimony," says Taylor, in his work on Evidence. "Perhaps the testimony which least deserves credit with a jury is that of skilled witnesses. Its technical nature is either beyond their comprehension or is so confusing as to destroy its application to the case."

In referring to witnesses of this class the same author says: "These gentlemen are usually required to speak, not as to facts, but as to opinions, and when this is the case it is often quite surprising to see with what facility and to what extent their views can be made to correspond with the wishes of the interests of the parties who call them." (Taylor, Sec. 58.)

The bar and the medical profession are alive to these shortcomings in our procedure, and I am sure they would welcome whatever modification that would give assurance of improvement.

The Circuit Attorney of the City of St. Louis, Mr. Arthur N. Sager, in a paper read before the Medical Society of City Hospital Alumni, April 8, 1907, said: "The advice and knowledge of the conscientious expert is invaluable, and can not safely be dispensed with, but unless something is done to improve our system and eliminate from all consideration the work of those who, for hire, try to defeat and abort justice, we will soon find the expert witness practically disregarded by the juries of the country before whom they come."

One of our most distinguished physicians, one who has frequently been called as an expert, Dr. R. B. H. Gradwohl, of the City of St. Louis, and Editor of the MEDICAL BRIEF, in a recent paper read before a medical society of that city, has this to say, speaking from the standpoint of a physician: "Beyond peradventure of a doubt, the partisan character of modern medical expert testimony stands out most conspicuously as its greatest

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flaw, and most often causes criticism on the part of fair-minded students of jurisprudence. We know that in most cases of personal injury suits, the plaintiff is represented by the physician who has treated the case from start to finish; then there is the physician who has been called into consultation by the plaintiff to corroborate the findings; then there is the defendant's physician, who, perhaps, has made a physical examination of the patient just prior to the time of trial; perhaps he has been refused the privilege of such an examination (on advice of opposing counsel). The plaintiff's physician, employed by him in good faith, and acting in good faith, should be fully cognizant of the extent of injury and probability of recovery or non-recovery from such an injury. Does he always content himself by giving an unprejudiced, unbiased opinion when put upon the witness-stand as to the extent of these injuries? Does he give a full and fair opinion of his patient's physical condition? Does he admit the possibility of a perfect recovery from said injury? The answer is found in the daily records of the courts. Sometimes he does; more often he does not. Does he not, on the contrary, lay more stress on the more direful and less probable medical features of the eventuality of the case? Does he not state that this complication or that complication has already transpired or is imminent? Does he not, on direct examination, give his opinion based entirely upon the worse probabilities? Does he not even steel himself against the cross-examination of opposing counsel, refusing to yield a single point, and is not that refusal made still more emphatic under the fire of sarcasm and epigrams on the part of opposing counsel, who is desperately attempting to break down the case which has been made so strong by the plaintiff's medical man? And the defendant's medical witness: What of him? Does he not sit behind the particular counsel while the opposing physician is on the stand, coaching and prompting his man so as to break down his strong testimony? Does he not descend to unprofessional and unethical conduct by attempting to belittle his opponent's medical training and knowledge? Does he not afterwards take the stand and bend all his energies toward proving that the first medical man's evidence is based upon obsolete teaching, upon inexperience, upon rankly biased observation, while *his* testimony is the only real, accurate and honest testimony, and that none other should be permitted? To this we must answer 'yes,' in most instances; in but few instances can we answer 'no.'"

"This represents a typical case showing the futility of arriving at a conclusion in a medical fact before a jury of average intelligence. Why should this be so? Can a medical man's opinion be bought and sold like so much tinware? Can not a medical man tell the truth to the jury as he would in his consulting room to his patients? Can he not take the stand and present his opinion as he would present it before a body of his peers? Is he afraid of displeasing counsel on his own side by telling the truth and yielding acquiescence on one point to his opponents? And yet the medical

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profession has never, as a body, been accused of cowardice. It appears to me that the fact that the medical man is employed by one side, given one set of facts (facts known to his side only), told to base his deductions upon these facts, and employed by one side and paid by one side, strongly influences him to give testimony that he would not give were he presented with these facts in, say, a State Board of Health written examination, where he wishes to convince his examiners that he is acquainted with the consensus of opinion on that particular topic. Let me lay great weight upon the fact that he is employed and paid by one side. The subtle influence of this employment makes him wish to give the benefit of the doubt to his employer; and it is this benefit-of-the-doubt part of his testimony that is usually the pivotal point of the whole case. The expert on the other side, too, employed as he is and paid as he is by the other side, gives *his* side the benefit of the doubt. We are thus between the devil and the deep sea. This partisanship means incapacity to give an honest and true opinion; it means sinking of professional ideals to a very low level—and that, too, however incongruous it may seem, through no fault of the medical profession. Let this fault, if you please, rest upon the present system of jurisprudence."

The Editor of the MEDICAL BRIEF, Dr. R. B. H. Gradwohl, in a paper read before the Thirty-ninth Annual Meeting of the American Medical Editors' Association, held at the Auditorium Hotel, Chicago, Illinois, on May 30, 1908, used the following strong and vigorous language in regard to the medical expert as a witness, and he certainly did not mince matters: "The customary method of their employment is largely responsible for the partisanship of most experts in giving testimony. Many experts are attracted to testify in a certain cause and along certain lines, because they know that they would not be employed if their views were not in consonance with those of their employer, *i. e.*, the views that he wishes the jury to believe. They wittingly or unwittingly, as you please, bend their knowledge and their viewpoints to run parallel with the proposition to be proven, instead of having a presentment of the facts of the case before them, and giving their impartial opinion on this presentation, with the privilege on the part of the lawyer to accept or reject their particular expert views. Lawyers are keen to take advantage of this vacillating character of experts, and often trap the unwary into committing themselves on a proposition, leading them gently along their own line of reasoning, and finally binding them to the cause with fetters of gold by means of a munificent fee. The oft-repeated boast of lawyers that they can get experts to prove any proposition in medicine, whether it is true according to authority or not, provided there is enough money on hand to buy in said experts, is a living confirmation of this question. The partisan witness takes refuge behind the disputed and moot points in medicine to cover his shame, yet there are many points in medicine that have been scientifically proven, and when

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brought face to face with such questions, there is no extenuation for the biased medical expert. This method of employing experts is bad, for few there are who can resist the almost unconscious desire to have the side win that pays their hire. High-minded, indeed, is the individuaal who can give damaging evidence against the side that employs him, and the chances are that he would never again be employed as an expert by that particular lawyer; yet a fair reputation made in this way would certainly result in frequent employment when lawyers really wanted to present the truth in their respective cases at bar—occasions not as infrequent as one would imagine. There is no reason on earth why a medical man should for one moment allow another to dictate his opinion. The cultivation of a high standard of morals and the faculty of truth-telling seem to lie at the basis of reform of partisanship."

Let me again quote from Judge Foster, in the XI Harvard Review, wherein he stated that in a recent New York case, after a week had been consumed in having expert testimony upon a subject concerning which an equal number of doctors had testified exactly opposite to each other, and with equal positiveness, the Judge told the jury to put all expert testimony out of their minds, and pay no attention to it.

Professor John Ordronnaux declared in 1874: "There is a growing tendency to look with distrust upon every form of skilled testimony. Fatal exhibitions of scientific inaccuracy and self-contradiction can not but weaken public confidence in the value of all such testimony. If science, for a consideration, can be induced to prove anything which a litigant needs in order to sustain his side of the issue, then science is fairly open to the charge of venality and perjury, rendered more base by the disguise of natural truth in which she robes herself." He then adds: "Some remedy is called for, both in the interest of humanity and justice."

In XI Harvard, L. R., 169, it is stated that "the bias" or inclination in favor of the party by whom the witness is employed, is probably the most frequent of all complaints against the expert witness, and the inclination or partiality is often characterized by terms indicating dishonesty and corruption."

In his work on Expert Testimony, Rogers declares that the cases show an apparent confused state of the law of expert testimony seemingly irreconcilable (Section 206). He sums up the whole situation by saying that different courts hold:

1. That expert testimony is to be considered as other testimony in the case, and tried by the same tests.
2. That expert testimony is to be received with great precaution.
3. That expert testimony is entitled to little weight.
4. That expert testimony is entitled to great weight.

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"While it is undoubtedly true," says a recent writer, "that a large part of the public (including learned and experienced members of the legal, and even medical professions) entertain pessimistic views concerning the value of expert testimony, as it is ordinarily given and required in courts of justice, yet a moment's consideration must convince all reasonable men that it is of the greatest importance that a jury or other tribunal charged with the duty of ascertaining the truth concerning a controversied matter should be assisted by the knowledge and opinions of the men especially trained in those matters of science and skill with which the ordinary juror and judge are unacquainted, and to exclude such means of information must, in numerous instances, compel a denial of justice, imperil rights of life, liberty and property, and destroy the safeguards of society."

"Indeed, the field of judicial investigation which requires assistance of experts, is illimitable."

It has been said, with truth, that the scientific expert is a product of an advanced and rapidly progressing civilization; that he has acquired an immensely increased importance and much wider field, and a far greater frequency of employment by the recent marvelous advances of the application of science—applications which have increased the sphere of things to be litigated about.

Expert testimony is admitted not only from the necessity growing out of the advanced civilization of the age, but in accordance with a rule of law that required the best evidence. The courts can not exclude it, if they would, with all its faults. No one can deny that there exists a "compelling necessity" for a change of our legal procedure in the methods of procuring and selecting expert evidence. We must adopt some modification that would give reasonable assurance of improvement.

Numerous and high-standing authorities relating to the subject of scientific evidence and amply sustaining the views that I am seeking to advance might be added to the many that I have already presented, but I am satisfied that those cited will be more than sufficient to arouse an interest in this organization that the matter may have earnest consideration, to the end that an improvement may be suggested in our legal procedure, and accomplished by proper legislation, or the adoption of such court rules which may bring about a change in the system.

I therefore respectfully suggest that a committee be appointed to consider this whole topic of expert testimony, and that it outline some plan to relieve this matter of its objectionable features, or at least to minimize the cause for this universal and unanimous complaint. It has been suggested that by making experts the appointees of the court and their compensation sure, but independent of the effect of their testimony, it would tend to remedy some of the evils of our present mode. That, however, would have the consideration of the committee.

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Many plans have been presented and suggested as an antidote for relief from the present situation; some of the cures suggested being so radical as to insist that amputation of this diseased member of legal procedure is the only remedy, thereby meaning no expert at all, rather than the defects of the present system. Among the many suggestions for a change the following are presented:

That the hypothetical question be entirely abolished.

That the expert witness be only such as is appointed by the court.

That a board of permanent experts or a standing commission be established, to be called in when required.

That there be created, by law, a jury of experts to sit in court as an ordinary jury.

That expert witnesses be paid by the State only, and not be allowed any other compensation than that paid by the State.

That counsel on both sides present names of experts to the court—to make appointments from the names presented, and in this way also give the court the right to appoint one or more additional experts to represent the court.

That an expert sit with the court during the trial of a case where experts are used as witnesses.

That a more stringent test of expert capacity be relied upon and demanded, to bring to the witness-stand a more uniformly high-grade of experts, and thereby lessen the danger of glaring conflicts.

These suggestions, though many of them may be impracticable, visionary and impossible, are all the outgrowth of a sentiment and conviction that a change must and should be made in the law relating to procedure when expert testimony is required.

In St. Louis we have, in a measure, overcome some of the imperfections of the present method in criminal cases, thanks to the activity and interest taken by some of our public-spirited physicians, who, through Dr. Henry Joseph Scherck, presented a memorial to the two Circuit Judges then sitting in the two criminal divisions, which is as follows:

"1. The courts and Jail Physician should appoint a body of three experts who are to be specialists on nervous and mental diseases, with knowledge and training sufficient to enable them to speak with authority on these subjects. The Jail Physician, by virtue of his office and his interest in the charges under him, is to be the fourth member of this body.

"2. One member of the body is to be appointed a chairman. His duty will be to apportion the work to be done, and to be the representative of the body whenever such representation shall be necessary.

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"3. Whenever, in the opinion of the Circuit Attorney, the Jail Physician or the presiding Judge, there is committed to the jail a prisoner in whose case there is any suspicion of mental disease, either past or present, which has any bearing on the case whatever, such a prisoner, before coming to trial, should be examined by the body of experts, either singly or collectively, as the case demands, for the purpose of determining his responsibility, his irresponsibility, degree of responsibility, and his final disposal if his irresponsibility is established.

"4. The decision of this body is to be submitted in writing to the Judge before whom the prisoner is to be tried. If the decision is not unanimous, a dissenting opinion can likewise be submitted.

"5. This body, or any part of it, will be at the service of the court to present its findings to the jury, or in any other way to assist the court to arrive at a just opinion in regard to the sanity or insanity of a prisoner.

"6. Each member of this body will agree to serve without compensation.

"7. The Jail Physicians, or the court, can add to this examining body at any time, physicians who, in their opinion, can aid them in arriving at a decision. In this way no one can be deprived of the services of experts who are not members of this body. It is recommended, however, that if such additions are made, only those who have the requisite knowledge should be appointed.

"8. A room is to be set apart in the jail building in which prisoners under observation can be studied under the best possible conditions.

"9. A record of the work of this body is to be kept with great care, so that its services to the courts of justice and to the community may be used as an argument in favor of the permanency of such a body, if this method of arriving at a just solution of this part of criminal procedure should find favor with those who can set about making this into law."

The Circuit Attorney of the City of St. Louis says that the court generally availed itself of this offer of assistance from the expert physicians, and the commission was appointed, composed of specialists of high standing: Drs. Frank R. Frey, Sidney I. Schwab and Wm. W. Graves, and the then Jail Physician, Dr. Henry Joseph Scherck.

In numerous criminal cases the State and defense have sought this commission, and its findings and recommendations have been approved by the Circuit Attorney's office and adopted by the court.

A variety of opinions, all pointing to a single conclusion, indicate the positive necessity of a remedy that will bring about that conclusion. I have presented this variety of opinion, pointing to the single conclusion. It remains for this Association to determine the remedy.

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LIFE'S EMPTY SHELL.

By Albert S. Ashmead, M. D., New York.

[Written for the Medical Brief.]

Tolstoi, on "Life and Death," says: "I know with certainty that in dying I shall be happy, and that I shall enter a world more real."

He thus sums up his anticipations of death in reply to a friend who congratulated him upon his approaching eightieth birthday. All earthly life, he says, is a dream, and death the true awakening. He awaits that awakening with happiness. Elaborating on this idea, he says:

"Our earthly life is one of dreams of another and more real life, and that other life is a dream of yet another, and so on *ad infinitum* even to the last life, the life of God."

Of death at different ages and under different circumstances he says:

"Death in youth is as when a man is awakened before he has slept full measure. Death in old age is as when a man wakes of his own accord after a good sleep. Suicide is as a nightmare which a man banishes by remembering that he is asleep. He makes an effort and wakes."

How does Tolstoi *know* so much about the impenetrable?

Ingersoll said: "I do not know whether the end of life is a wall or a gateway."

Tolstoi can not *know* more than that. We can only know that after life comes the grave. All knowledge is only human.

Tennyson, in his poem "Crossing the Bar," expresses merely hope. He *hopes* to see his Pilot face to face when he "puts out to sea."

Edward Rowland Sill, in "A Morning Thought," speaks of the "benignant spirit standing near who gravely smiles on me, the gentle angel, and takes my hand and says, my name is Death."

This is Faith, and not knowledge. Knowledge is an entirely different thing. Logic of death is that it ends all that is human, including both Hope and Faith.

Every knowledge of our human being applies only to the earth, how we can best survive here, by resisting the down-throwing forces of Nature, as life makes them clear to us. Yes, "after life, the grave!" That is all any man can ever know while in the flesh. Whether there be resurrection of the clay or of the spirit by that gentlest of our friends, Death, or an eternal nescience, is beyond human ken, can only be judged by each one for himself, and can never be told to the other. Surely not one of human kind, in all time's history, so far, has returned to earth to reveal what is beyond.

We may believe death to be our sweetest experience, which it must be, if it is followed by immortality of the spirit, an eternity of heavenly bliss. What sweeter, far, is conceivable than to fall asleep in the loving arms of a Heavenly Father, a Saviour of men, or to utter forgetfulness of

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all earthly sorrow after life's useless turmoil? Awakening would be just the reverse of what Tolstoi believes. We should forget our interminable day after day of life's horror, in every human existence—*knowledge* of life's penalties, its tortures, its terrors. To awake is nightmare; to sleep, when dead, is peace everlasting, without knowledge of time and eternity.

Nothing of the poet's voice remains with me in the flesh so distinctly as Senator Ingalls' "Opportunity."

"Master of human destinies am I!
Fame, love and fortune on my footsteps wait,
Cities and fields I walk; I penetrate
Deserts and seas remote, and passing by
Hovel and mart and palace, soon or late.
I knock unbidden once at every gate!
If sleeping wake, if feasting rise before
I turn away. It is the hour of fate,
And they who follow me reach every state
Mortals desire, and conquer every foe
Save Death; but those who doubt or hesitate
Condemned to failure, penury and woe
Seek me in vain and uselessly implore.
I answer not and I return no more!"

This feature of Nature has been likened to a door that suddenly opens, and as suddenly closes.

But when we "put to sea," 'tis "twilight and evening bell, and after that the dark!"

I have no doubt of the correctness of the general tenor of view which I here express. *Tolstoi can not know.* He may have a faith, a belief, so strong as to cause a feeling of significance. That is all any of us can say about such matters. We have the three great R's—Reason, Religion, Resignation. The first and the second lead to the third, the road to which is the selection involuntary of the individual.

Apathy, indifference, is a state of mind liable to be storm-swept to a twister.

I can see only the great differences, the startling atrocities of the Law of Things, so greatly in contrast is the pleasant and the poisonous. Yet the two are always associated. I must tell it here, though some may know of it. It is new to me. Yesterday I was informed incidentally, my informant being so informed by a French physician.

For high crimes the French courts send convicts to Cayenne. On arrival they are put on a diet of veal and Burgundy, nothing other. I believe these are capital cases, and the condemned would rather thus die than in a sudden and violent way—though his sufferings seemingly are great. Four or five weeks of this food and drink reduce him to such a state that a respite of the diet is allowed. On reaching a certain state of recovery he is again put upon this diet with another interval; and thus, until his death, which occurs about eighteen months after his arrival.

The following is the purpose: The urine of the prisoner becomes red. This red is a never-fading dye, with which the red trimmings of the army

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are colored. Enough is obtained to make it a commercial article at a very high price. Imitations are to be had. My informant was surprised that I had never heard of Chenova Red—its commercial name. I assume that I am truthfully informed.

Professor Fürth, in his "Chemistry of Insects," I think under the subject of Spiders (Spinners), mentions a spider that seizes flies and injects into the fly a fluid that reduces the inside of the fly to what I would call a chyle. I do not remember the word used in my translated copy, and can not now conveniently recur to the text to see the word he employs. This reduction is then drawn out by the spider for its own sustenance, leaving the fly in the proper fly shape, but it has become an empty shell.

The Individual is consumed by Nature. Life is but the empty shell.

The poetic mind sees not the dark side of the moon—is unmindful of the fiery, lashing arms of the Sun.

Festus is reported to have said: "Much knowledge drives me mad." I can say: "Much information makes me weary." What a world! What a world! It is mad. Of this world weary, of the next world "leery"!

A FEW OBSERVATIONS ON OX-GALL.

By W. E. Putnam, M. D.,

Ex-Surgeon-General of Vermont.

[Written for the Medical Brief.]

Many years ago it was found that the inspissated gall had a remarkable tendency to counteract the constipating effects of opium, which drug not only checks the secretion of bile, but almost all other secretions of the body. Although this property of the gall was well known and made use of then, for some reason or other physicians of the present day are neglecting its employment as a means of overcoming the constipation following an exhibition of opium, or its alkaloids. I have used the drug for several years in such cases, and generally with good effect. Five to eight grains of the inspissated gall should be given at bedtime if the opium is used at night, and smaller doses two or three times a day if the narcotic is given at intervals during the day.

In all cases of marasmus, whether of children, or in the atrophy of adults, ox-gall is a most valuable remedy. In acidity of the stomach, etc., of children, it gives most decided, effectual, and immediate relief. The curdled vomitings, green motions, abdominal gripings and restlessness immediately disappear, and a better state of general health is substituted: in all such cases there is apt to be decided action on the kidneys, increasing the secretion.

Its effect upon children as just stated, especially while at the breast, living almost entirely upon milk, where the remedy is indicated, it will

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generally be found adequate to do the work it is called upon to perform. It is said that it prevents milk from turning sour, and dissolves it when in a state of coagulation. As an antacid it has no superior, overcoming fermentation promptly.

To show its direct effect upon hardened fæces, a child sixteen months old passed a very hard motion with very great difficulty, not having had one for three days; a solution of ox-gall was poured over it in a vessel; immediately its chalky appearance was changed to a more healthy bilious color, and reduced to a pulpy mass in half an hour. Owing to my knowledge of this property, I made use of it last week to relieve one of my patients of a hardened fæcal mass in the rectum that she had been quite unable to pass off, while enemas seemed to have no effect, they having been used freely before my arrival. I was called into the country to see this case, a farmer's wife, and found conditions as stated. The husband had just killed a cow; I took the bile from the gall bladder, diluted one-half with water, and injected over the fæcal mass, with the result that in half an hour she passed a large disintegrated stool, the whole having been broken down in that short time; there only remaining the center of the mass that was not dissolved. I might state here that in giving ox-gall to overcome the constipating effects of opium, it in no way interferes with the sedative action of the narcotic.

THE SIMPLICITY OF EXAMINING THE BLOOD FOR MALARIA.

By N. W. McVey, M. D.,

Professor of Histology and Bacteriology, and Lecturer on General Pathology in the University Medical College, Kansas City, Mo.

[Written for the Medical Brief.]

The diagnosis of malaria is no longer dependent upon guess work, but is reduced to an exact science. The simplicity of this test as a diagnostic aid will commend itself to every practitioner of medicine. Very little time and a small amount of paraphernalia and materials are required. By using the Wright stain no heat is necessary in conducting the test. Two ordinary glass slides, stain, some distilled water and a microscope are all that are necessary to succesfully demonstrate the presence or absence of the plasmodium in a case of suspected malaria.

With a lancet, needle, or a small, sharp knife, an incision is made in the lower lobe of the ear and a drop or two of blood secured.

Two glass slides, which have been previously cleaned, should be in readiness. These must be absolutely free from dirt or oily substance and should be cleaned with alcohol or ether.

On one end of a slide is placed a drop of the blood, as small a drop as possible. That slide is laid on the table and the edge of the other slide placed in the center of the drop and by means of a little lateral motion the

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blood can be spread along the edge of the second slide. Then holding the slide at a little less than right angles, push it to the other end of the slide underneath, thereby smearing the blood over the side. The smeared slide is immediately waved in the air to dry the blood as rapidly as possible, when it is ready to be stained.

The blood should be spread so that the corpuscles are separated and not piled up on each other. Wright's stain is employed, the stain completely covering the blood; and as the slide is held in the fingers it can be gently rotated or tilted to keep the blood covered with the stain and to prevent evaporation. The stain is allowed to remain on the slide thirty seconds by count. At the end of that time the stain is covered with distilled water (rain water, or any clear water which is not too strongly impregnated with lime or salt, may be employed if distilled water is not available) until a metallic luster appears on the surface. The slide is rotated and tilted as before to keep the water washing evenly over the smear for fifty seconds. The stain is then washed off rapidly with the water until all, or nearly all, of the color disappears. The slide is placed on end until it is dry, when it will be ready for the microscope.

If the plasmodium is of the tertian variety, in the mature form, there will be observed in the red corpuscles a greenish body with black spots or stippling, irregular in shape, and filling the entire corpuscle at times. The younger forms are in ring shape, with a red dot on one side of the ring, commonly designated as a signet.

This test is made most satisfactorily about eight hours after the chill, the parasites being much larger at this time, and might be readily overlooked in the earlier stages. The specimen must be well stained or the figures will not be brought out distinctly.

Rialto Building.

CLEANLINESS IN OBSTETRIC PRACTICE.

By Z. T. Cason, M. D., Kansas City, Kan.
Professor of Obstetrics in the Medical Department of the University of Kansas; Obstetrician to Bethany Hospital, etc., etc.

[Written for the Medical Brief.]

While much has been written upon the subject of surgical cleanliness in obstetrics, I feel it may not be amiss to add a few words on personal cleanliness of the obstetrician. There is no gainsaying the importance of aseptics and antiseptics in the lying-in room, but unless the obstetrician observes the strictest personal cleanliness not only in the care of his hands but of his clothing as well, the danger from these sources is considerable. Aside from the esthetic effect, cleanliness is absolutely necessary in the interests of the patient. Clothing may not be worn in the lying-in room which has been worn a few moments before in the sick-room of a patient

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suffering with an even mildly infectious disease. That this is done is borne out by the fact that infections have followed the practice. Puerperal fever due to infection from the improperly cleansed hands of the attending physician is of sufficiently common occurrence to deserve mention.

There are so many excellent methods of disinfecting the hands that a résumé of them is scarcely necessary. One of the most popular and effective, however, is the Halstead method as described by Kelly:

"The hands are thoroughly scrubbed with hot water and green soap for from three to five minutes, the water being changed several times.

"The hands are immersed in a warm solution of permanganate of potassium until they stain mahogany brown.

"They are then decolorized in a hot saturated solution of oxalic acid.

"Soak the hands and forearms for at least two minutes in a 1-100 solution of bichloride."

Next in importance as an antiseptic measure is the cleanliness of the nurse in attendance. She must be free from disease of any sort; be sufficiently well trained in the science of asepsis to properly cleanse her hands and to appreciate the importance of doing so. She should not be permitted to make a vaginal examination without taking proper precaution in the disinfection of her hands; nor, indeed, at all, unless the physician is assured of her ability to do so. This applies also to the passing of a catheter, or any service which will bring her in contact with the patient.

The lying-in room should be as clean as it is possible to make it. All superfluous hangings and furniture should be removed. It is better to remove carpets also, when this is possible. If not removed they should be covered with a cotton sheet to prevent dust from arising. Bed and bedding should be perfectly clean, and an abundance of bed linen provided. The mattress should be protected with a rubber sheet, over this a second rubber sheet may be spread to serve as a draw sheet. When absorbent obstetric pads are available, they should be used. If not at hand, ordinary sheets may be folded and placed over the rubber sheet to retain discharges, being removed as soon as soiled. The use of the Kelly pad in this connection promotes cleanliness.

As to the proper preparation of the patient much will depend upon whether the case is in private practice or in a hospital. In either instance the patient should receive a warm sponge bath and the field of operation disinfected first by means of warm water and green soap, followed by irrigation with bichloride solution. Irrigation cleansing should precede each examination.

A post-partum douche is harmful unless there is positive indication for its use; in other words, evidence of infection.

Osage and Packard Avenues.

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CORRESPONDENCE.

Raped by Ghosts.

To the Editor:

A prominent lawyer of Ft. Wayne, Ind., late Prosecuting Attorney of Allen County, has just mailed to me a copy of the MEDICAL BRIEF for October, 1908, directing, in a letter accompanying it, my attention to a well-marked article by Dr. J. A. Houser, of Indianapolis, entitled: "Raped by Ghosts," knowing that I had for some time been engaged in the study and investigation of phenomena known as spiritualistic.

Whatever may have been the motive which prompted my legal friend to mail this article to me, he being a devout communicant of an orthodox church, I duly acknowledged its receipt, in the following language:

"*Hon.* ——— ——— ———: "FT. WAYNE, IND., October 2, 1908.

"MY DEAR SIR—I am in receipt of a copy of the MEDICAL BRIEF, containing an article entitled, "Raped by Ghosts," by Dr. J. A. Houser, of Indianapolis, which you have so kindly mailed to me, together with a letter directing my special attention thereto, for all of which please accept my most sincere thanks.

"While it is true, as is quite generally known, that I have been for some years past interested in certain phenomena of Spiritualism which are now established as scientific facts, I have not yet credited and accepted, and presume I never will credit and accept everything spoken, or printed, or written, under that general head, or relating to it. Surely, I can no more believe the story related by Dr. Houser or his patient, "Raped by Ghosts," than I can believe and accept the story that the Virgin Mary was raped by a ghost. Both stories seem to me to be equally ridiculous and absurd, as I presume the former only, appears to be to yourself, to which it seems to afford you peculiar satisfaction to direct my attention.

"Very truly yours,

"H. V. SWERINGEN."

POISONOUS FISH.

Remember that the ill-effects following the use of fish (Ichthyismus or Ichthyotoxismus), may be due to a number of causes, some of which are well understood, while others are far from being satisfactorily explained. Poisoning with fish is naturally more common in the countries where fish is the principal article of diet, such as Russia, Japan and the West Indies. The several causes may be grouped in the order of their importance under four heads. First is the presence of normal or physiological poisons in the fish; second, the presence of bacteria or their products; third, invasion by animal parasites, and, fourth, contamination with metallic or other poisons.

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CURRENT MEDICAL LITERATURE.

The Elastic Ligature in the Treatment of Certain Cases of Anal Fistula.

C. M. Echols (*Surgery and Gynecology,* August 1908) describes the old and now almost-forgotten method of treating anal fistulæ by means of an elastic ligature inserted through the fistulous tract. Where a general anesthetic is used, he advises insertion of a probe through the entire tract, the outer (cutaneous) opening enlarged towards the anus, cauterizing the tract with a thermo-cautery, without dividing the sphincter; insertion of a small-sized McGraw elastic ligature, which is tied with moderate tension, the object being to have the ligature cut gradually through the tissues. The cauterized fistulous tract is packed with a slender strip of iodoform gauze; after a day or two, the fistulous opening is treated daily with an application of balsam of Peru, until healing is complete. When healing is complete, this leaves a small bridge of tissue, which is not very deep, and it can be divided under local anesthesia.

This method may be used without general anesthesia, and is especially recommended for those people who, through dread of an anesthetic or the knife, carry fistulous tracts for years without operation. The method means only a day or two in bed, and is applicable to all anal fistulous cases, except, possibly, those "horse-shoe" fistulæ which completely encircle the bowel. This operation preserves the contour of the anus, and does not impair the function of the bowel; it is suitable for patients who can not, or will not, take a general anesthetic, and, thirdly, it entails a very short period of complete disability after the operation.

The Relations of the Female Reproductive Organs to Internal Diseases.

Friedrich Mueller (*The American Journal of the Medical Sciences,* September, 1908) calls attention to a number of hitherto neglected points arising in a borderland study of the conditions where gynecology and internal medicine overlap. He divides his observations into three classes: (1) A discussion of those internal diseases which have been observed in connection with the physiological processes of the female generative organs, namely, puberty, pregnancy and the menopause; (2) a consideration of the significance of the pathological processes in the female reproductive organs which give rise to medical conditions, and (3) a discussion of the relation of certain internal diseases to disorders of the female reproductive apparatus.

1. The period of puberty induces, apparently, much more marked disturbances in the female than in the male, and in the somatic rather than in the psychic aspect. In first order chlorosis may be mentioned. Again,

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during puberty, thyroid enlargement has frequently been observed, associated with irritability of the heart, although this latter symptom may be seen in puberty without associated thyroid trouble. There is sometimes seen mental sluggishness and the characteristic symptoms of juvenile adipositas nimia, which, off-hand, must not be regarded as identical with juvenile myxœdema. There are psychic changes in puberty, not necessarily special psychoses, but an over-emphasis of the psychic life, a tendency to mysticism, depression, premonition of early death, delusions of restraint and persecution, or, in other words, the ideas present in hysteria. There is often seen in girls who have not yet menstruated, fits of tacturnity, bodily and mental hypersensitiveness, disturbances of nutrition, frequently obstinate and insuperable constipation.

Now, pregnancy has been regarded as a physiological process, because it is often accompanied by both physical and mental benefits. A healthy woman, after a normal puerperium, becomes younger, fresher, more energetic and more mature than the unmarried girl of the same age. Yet in delicate women of refined tastes, there is no such benefit observed, for we see them gain weight too rapidly, then lose it again, with loss of appetite, etc., with inclination to capriciousness, and the general arising of a pronounced neurasthenia. This condition may disappear with a new pregnancy and reappear with the end of the puerperium. It is not exactly neurasthenia, but more properly, a lack of nutrition and loss of strength, a condition called post-puerperal asthenia.

There is often seen a pronounced neuritis in pregnancy, sometimes a polyneuritis. Rudolph von Hoesslin speaks of a type of multiple sclerosis met with in pregnancy, and it becomes worse with each succeeding pregnancy. Cardiac disturbances are met with in the early days of pregnancy, manifesting themselves as extrasytolic arrhythmia, with intermittent heart action, dyspnœa. This is an expression of the insufficient or imperfect adaptation of the heart to the increasing demands of pregnancy. Enlargement of the thyroid, without the symptoms of hyperthyroidism, is frequently seen in pregnancy. Indeed, symptoms of hyperthyroidism existing in women prior to conception usually improves from the time pregnancy begins.

Menopause is a condition met with towards the end of a woman's life that finds no analogous condition in the waning years of her male mate. Women previously happy, suddenly become morose and lose interest in life, suffer with insomnia, restlessness, loss of memory, there comes a tendency to corpulence. There is a peculiar condition in the heart, at this time, called by Clement the "cardiopathie de la menopause." Striking changes are seen in the life of a woman upon whom a surgical operation is performed demanding complete removal of the ovaries—the so-called "premature menopause." Removal of the uterus does not seem to do this.

A sterile marriage can bring with it serious mental consequences to the wife, not only where the cause of the sterility is found in disease of the

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uterus or adnexa, but also where the fault is with the husband. Where the wife is anxious to have a child, but can not, each menstruation brings another period of disallusionment and depression, with shattering of the psychic well-being, finally leading to hysteria. When the husband, as is frequently the case in sterile marriages, regards the wife with particular affection, the condition of things is like a wife being treated as a child, indeed, the spoiled child of the husband. Only when the menopause banishes the last hope of issue, comes peace.

2. Diseases of the female reproductive organs can give rise, in the most varied ways, to pathological processes in other internal organs. Constipation of the bowels is commonly seen in such conditions, sometimes mucous colitis. "Myoma" heart is seen in cases of myoma uteri. The explanation of this condition is impossible, but certain it is that in cases where myomectomy has been done sudden heart failure has sometimes occurred, with *post-mortem* examination showing a weak and flabby heart muscle. There is frequently disturbance of the heart in cases of disease of the adnexa. The relationship between disease of the adnexa and the nervous system is too well known to need further mention here. The relatitonship between gynecological disease to organic disease of the nervous system has also been admirably considered by Rudolph von Hoesslin.

3. Coming now to the diseases of other organs in which a certain relationship to the female reproductive organs is recognizable, first might be mentioned diseases of the kidneys and urinary tract. Pregnancy can lead to the kidney of pregnancy. Pregnancy also may light up a nephritis existing prior to conception. Pyonephrosis may occur in pregnancy. The prognosis of urine stagnation is worse in many gynecological diseases, in which neoplasms and dense adhesions produce compression upon one or both ureters. Attention must be called here to the "Ovulation Fever," described by Fieder, where fever appears at the time of menstruation. Another interesting point is the connection between gall-stones and pregnancy. Appendicitis seems to bear some sort of relationship to disease of the female adnexa. Acute appendicitis has been frequently observed during menstruation, when it is very difficult to distinguish it from disease of the adnexa. Sigmoiditis and perisigmoiditis exist more commonly than was first supposed.

Lastly, the connection between diabetes and tuberculosis and the female genitalia must not be overlooked. Pregnancy and the puerperium are usually fatal to diabetic women. Generally, young women who have consulted physicians, and who have been told by them not to marry because of an incipient case of tuberculosis, have done so anyway, resulting in a fatal ending of their lives after a few years of marriage. The foregoing observations should make the internist turn his attention to the gynecological condition and, in turn, the gynecologist should not neglect to be on the lookout for medical disorders.

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EDITORIAL

THE TRANSMISSIBILITY OF BOVINE AND HUMAN TUBERCULOSIS.

The recent meeting of the International Congress on Tuberculosis (report of which will be found in another part of this issue) saw renewed again the controversy which agitated the meeting of the same Congress in England in 1901, when Dr. Robert Koch startled the world with his pronunciamento that bovine tuberculosis differs so essentially from the human type of this disease that it is rarely transmitted to man. At that time, this statement was received with bitter opposition by practically all authorities on the subject. Koch gave certain experiments in support of his theory, together with the statement that eleven-twelfths of the cases of tuberculosis met with in man are of the pulmonary form, and that primary intestinal tuberculosis would certainly be more common than it is if tubercle bacilli in milk and meat were capable of infecting the human host into which they are received so frequently. At that time, and ever since, the medical world has been intent on showing the fallacy of this Koch doctrine.

At the Washington Congress, Koch continued to maintain the position that he took in 1901. This was demonstrated in his address before the Bacteriological Section. He was closely followed by Arloing, Ravenel and Fibiger of Copenhagen, who contested the position, and fought him on every phase of his contention that there was a duality to the tubercle bacillus in morphology, biology and capacity to produce two separate and distinct diseases in two separate and distinct hosts, a duality that included impossibility of transcommunication from man to beast, and *vice versa.*

So important was the unfortunate dissension among these authorities to the best interests of the entire world, that it was deemed expedient to hold a meeting *in camera* in the Hotel Willard, at Washington, on the day following the section meeting, in order to have an informal discussion of this matter, to the end that some better understanding might be had among the authorities at issue. At this meeting, presided over by Dr. Herman Biggs, of New York, Koch refused to recede from his original position. In a stirring speech he asked if any one present could point to a single case of pulmonary tuberculosis that could be clearly proven to have been infected from the bovine source. To this Professor Arloing referred to a case reported by him, in which the bovine bacillus tuberculosis was found in human lungs. Even this Koch refused to accept as evidence, claiming it "might" have been a contamination with the bovine

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tubercle bacillus, which entered the lung in the terminal stage, regurgitated from the stomach, which it had previously entered in infected milk! Confronted by Arloing with the fact that, in this case, the bovine tubercle bacilli had been demonstrated in the sputum long before the terminal stage, Koch fell back upon the defensive, claiming that the record of one case proves nothing, although he had called for that one case, as if it *would* prove something!

Koch may be right or wrong in his belief; the opponents to Koch may be incorrect in maintaining that bovine tuberculosis is communicable to man. Certain it is, however, that the pronouncement of Koch's dictum has done serious harm to the general movement that has been going on looking toward the improvement of the quality of our meat and milk supply. The widespread publicity of Koch's position has gone far to make the public believe that it is unnecessary for them to protect themselves against tuberculous-infected meat and milk. It would be far better to continue to adhere to the rigid inspection of cattle with the end in view of stamping out tuberculosis in these animals—even though man can not contract tuberculosis from this source—than it would be to let down the bars of cattle quarantine before the truth or falsity of the Koch doctrine has been adequately established. Koch is fighting from the standpoint of the "extreme" scientist, and is, wittingly or unwittingly, as one may be able to see it, setting at defiance the humanitarian side of the question.

THE EXPERT WITNESS.

In this issue we publish an address delivered before the recent annual meeting of the Missouri Bar Association by Mr. Simon S. Bass, of the St. Louis Bar, on "The Medical Expert Witness." This address is a calm, dispassionate survey of the present status of the medical expert witness in the eyes of the bench, bar, and the medical profession. It carries the suggestion that the entire matter of reformation of this question be submitted to the Committee on Remedial Legislation of the State Bar Association, with the end in view of threshing out the whole proposition, and reporting next year as to the best way of remedying the evil. The address was received with great favor, and we are given to understand that the members of the Bar Association are profoundly interested in ameliorating the lowly status of the medical expert witness. This marks a distinct advance in this question, and ought to pave the way for a consummation of the most ardent reformer's hopes in this direction. We are confident that the members of the Committee on Remedial Legislation of a State Bar Association of the standing and dignity of Missouri's are fully capable of making most logical, fair and just recommendations to the general body, and to the State Legislature, looking towards the correction of this evil.

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BOOK NOTICES.

WALDO TRENCH AND OTHERS.—By Henry B. Fuller. New York: Charles Scribner's Sons, 1908.

"Waldo Trench and Others" is a volume of short stories by Henry B. Fuller, just off the Scribner press. The stories are all in the Italian atmosphere, revolving around Naples, Rome and Florence, embracing short descriptive journeys to the sites of obscure Latin ruins, with American tourists, researchers and colonists in the leading roles. The stories are told in a fine conversational style, replete with bright dialogue and repartee, and are especially recommended to those readers who have journeyed through Italy and studied her ruins.

AN OLYMPIC VICTOR.—By James B. Connolly. New York: Charles Scribner's Sons, 1908.

"An Olympic Victor" is the incisive title of a new book by Mr. James B. Connolly. It is an exciting story of the Olympic games at Athens in 1896. Mr. Connolly, himself an athlete, tells in an attractive, robust way of the winning of the great Marathon run by Loues, of Marousi, the Greek hero of the story, whose great love for his native Marie lends wings to his feet on the day of this tremendous effort. The description of the actual run is beautifully done by the author; and not the least attractive feature of the volume is the work of A. Castaigne, who has furnished eight illustrations.

GOEPP'S STATE BOARD QUESTIONS AND ANSWERS.—By R. Max Goepp, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Octavo volume of 684 pages. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $4.00 net; half morocco, 5.50 net.

The material for the present volume was selected from State Board questions asked during the past four years, the preference being given to those asked in the larger and more representative States. The purpose of the book is to provide a convenient compend for the use of those who wish to prepare themselves for State Board examinations. The questions are answered in a condensed form, and for didactic expositions the student must consult the larger textbooks. The book is recommended to those whose lot it is to undergo that *bete noir* of practitioners, the State Board examinations.

THE CURE OF RUPTURE BY PARAFFIN INJECTIONS.—By Charles C. Miller, M. D., Comprising a Description of a Method of Treatment Destined to Occupy an Important Place as a Cure for Rupture Owing to the Extreme Simplicity of the Technic and Its Advantages from an Economic Standpoint. Published by the Author, 70 State Street, Chicago. Prepaid $1.00.

The writer of this book offers his method of treatment of hernia by means of paraffin injections. He claims that four out of five patients with hernia will refuse a cutting operation, whereas they will submit to a method like paraffin injection, which will not lay them up in bed. He claims that his method promises as much success as the "open" method of operating. He further claims that there is less danger of infection with this method—providing thorough asepsis is practiced—than there is in the open cutting method. A clear description of the technique, selection of kind of paraffin to be used, syringe, etc.. is given. For those who wish to be informed upon this method of treatment, this work will be found useful.

GENITO-URINARY DISEASES AND SYPHILIS.—By Edgar G. Ballenger, M. D., Lecturer on Genito-Uninary Diseases, Syphilis and Urinalysis, Atlanta School of Medicine; Editor *Journal-Record of Medicine;* Genito-Urinary Surgeon to Presbyterian Hospital, Atlanta, Ga., with 86 Illustrations, 276 pages. Price, $3.00, carrying charges prepaid. E. W. Allen & Co., Publishers, Atlanta, Ga.

This is a good manual for the students of medicine. It sets forth without undue flourish the generally accepted theories and procedures in regard to the handling of diseases of the uro-genital system. The work is comprehensive and shows that the writer is thoroughly acquainted with the treatment of these diseases. There are no special features of the work to be commended beyond the fact that the writer is in accord with the authorities on genito-urinary diseases, and has had sufficient experience

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with such diseases to speak with authority himself. It is a good working manual for a student.

A COMPEND OF PHARMACY.—By F. E. Stewart, M. D., Ph. G., Charter Member of the American Therapeutic Society; Formerly Lecturer and Demonstrator of Materia Medica and Pharmacy, Jefferson Medical College, Philadelphia, etc., etc.; Based Upon Professor Joseph P. Remington's "Text-Book of Pharmacy" and the U. S. P.; eighth revised edition (1905). Seventh edition, revised. In Accordance with the Additions and Corrections Made in the U. S. P. to Comply with the New Food and Drugs Act, 1907. With a Very Complete Index and Table for Converting English Measures Into Metric and the Reverse. Philadelphia: P. Blakiston's Son & Company, 1908. Price, $1.00 net.

This is a very useful little work on pharmacy, and will be of material assistance to the student of medicine. There are too many books on surgery, and not enough on pharmacy. There is too much reading of surgery and not enough of pharmacy by the average student. Hence this book should fill a gap in the student's library. The student who will read more on pharmacy and less on surgery will be better off than his neighbor who does the opposite.

SPECTACLES AND EYEGLASSES, THEIR FORMS, MOUNTING AND PROPER ADJUSTMENT.—By R. J. Phillips, M. D., Ophthalmologist Presbyterian Orphanage; Late Adjunct Professor of Diseases of the Eye, Philadelphia Polyclinic and College for Graduates in Medicine, etc. Fourth edition, revised, with 56 illustrations. Philadelphia: P. Blakiston's Son & Company, 1908. Price, $1.00 net.

This book is intended to cover a very important phase of the subject of fitting glasses, namely, the adjusting of the lenses to the frames so that the lenses will sit right. No matter how carefully and accurately errors of refraction are corrected by the ophthalmologist in his prescription, the object sought for, the correction by means of the artificial lens of the error of the visual apparatus, will be handicapped if the frames of the spectacles are not properly fitted. Of course, in many communities, competent opticians who are entrusted by ophthalmologists with the filling of their prescription will see to this, but in some places the physician must fit these glasses himself. This book will be of immense value to such a man. The plain truth of the matter is that few books on refraction say anything at all about the frame-fitting. This book aims to fill in this vacancy in the average text-book on refraction.

PULMONARY TUBERCULOSIS AND ITS COMPLICATIONS, WITH SPECIAL REFERENCE TO DIAGNOSIS AND TREATMENT FOR GENERAL PRACTITIONERS AND STUDENTS.—By Sherman G. Bonney, A. M., M. D., Professor of Medicine, Denver and Gross College of Medicine, Medical Department of the University of Denver; Visiting Physician to St. Luke's Hospital; Consultant to Denver County Hospital; Director of the National Association for the Study and Prevention of Tuberculosis; Member of the American Climatological Association; ex-President of the Denver Clinical and Pathological Society, etc., with 189 original illustrations, including 20 in colors and 60 X-Ray Photographs. Philadelphia and London: W. B. Saunders Company, 1908.

This work aims particularly at giving the general practitioner and student of medicine a clear idea of the clinical manifestations of tuberculosis. Dr. Bonney has had a wide experience in the treatment of tuberculosis. He is fully capable of speaking with authority on this subject. He has written a book which will stand for a long time as a classic in medical literature. But little space is given to the discussion of abstract theories. The book is essentially practical.

Physically, this text-book is very pleasing. The type is good, and the illustrations admirable.

PETER.—By F. Hopkinson Smith. Illustrated by A. I. Keller. New York: Charles Scribner's Sons, 1908.

In "Peter; a Novel in Which He is Not the Hero," Mr. F. Hopkinson Smith has written an engaging tale of the vicissitudes that fall to the lot of young Jack Breen, an orphan, whose high sense of honor forces him to leave the employ and the roof of his rich, stock-manipulating uncle, and seek temporary shelter in the comparatively humble abode of Peter Grayson, a bachelor, an old-fashioned, old-school New York banker, a literary and artistic savant, the honored friend of prominent painters, architects and authors, and the chosen associate of people of high ideals and good breeding.

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This abrupt transition from an atmosphere of vulgar extravagance to one of that simplicity which is the heritage of moderate means develops Jack's inherent good qualities—and he proves to be an ideal hero in the climaxes. There is little or no dramatic power in the story. It is a narrative of the lives of plain people; a rather simply-told tale, through which flows a strong stream of the milk of human kindness. Of course, Jack marries the heroine, the guilty are punished, virtue is rewarded, and all is as it should be in the end.

"Peter" is a good story; yet, after having read it and laid it aside, a reflective mood impels one to incline unconsciously to that shelf in the old bookcase whereon rests those two charming volumes of much shorter stories by the same author: "The Wood Fire in No. 3" and "The Veiled Lady of Stamboul."

ANATOMY, DESCRIPTIVE AND SURGICAL.—By Henry Gray, F. R. S., late Lecturer on Anatomy at St. George's Hospital, London, New American edition, enlarged and thoroughly revised, by J. Chalmers Da Costa, M. D., Professor of Surgery and Clinical Surgery, and Edward Anthony Spitzka, M. D., Professor of Anatomy in the Jefferson Medical College of Philadelphia. Imperial octavo, 1,625 pages, with 1,149 large and elaborate engravings. Price, with illustrations in colors, cloth, $6.00 net; leather, $7.00 net. Lea & Febiger, Publishers, Philadelphia and New York, 1908.

Gray's Anatomy needs no introduction at our hands as a standard text-book of anatomy for students and practitioners of medicine. It has been the classic in anatomy for over fifty years, and the chances are bright for it always remaining that kind of a work. This is its seventeenth edition. It adheres to the original broad plan of description in the text with graphic illustrations to explain the same. There has been a complete revision of this work to conform to the newer discoveries in this field. Professor Spitzka has rewritten the section of the Nerve System, and he has done it well, bringing to the aid of his classical knowledge of neuro-anatomy brilliant artistic ability which has enabled him to make drawings and pictures of the nervous apparatus in a commendable manner.

Gray's Anatomy was the standard text-book of our fathers in medicine and of ourselves. It covers the field of human anatomy clearly and fully. It leaves no part of the human body undescribed. It is well arranged. It is handsomely printed and bound, and should attract renewed attention in this, its seventeenth appearance.

A TREATISE ON THE PRINCIPLES AND PRACTICE OF GYNECOLOGY.—By E. C. Dudley, A. M., M. D., Professor of Gynecology in the Northwestern University Medical School, Chicago. Fifth edition, thoroughly revised. Octavo, 806 pages, with 431 illustrations, of which 75 are in colors, and 20 full-page colored plates. Cloth, $5.00 net; leather, $6.00 net; half-morocco, $6.50. Lea & Febiger, Publishers, Philadelphia and New York, 1908.

The fact that this book is now in its fifth edition shows somewhat the estimation in which previous editions have been held by the profession. This is a big subject and an important one, too. Gynecology has become a recognized branch of medicine, and is no longer merely a part of general surgery. No practitioner can practice long before he becomes confronted by gynecological problems. We know of no better manual for teaching gynecology than Dudley's. The illustrations are very good, the text is excellent and the spirit of the work most conservative. This work does not evince the commonly-prevalent tendency of text-books to deal only with the major abdominal operations so much as it does a desire to present all phases of these cases and operations of gynecology as the practitioner meets them from day to day.

TEXT-BOOK OF SURGICAL ANATOMY.—By William Francis Campbell, M. D., Professor of Anatomy at the Long Island College Hospital. Octavo of 675 pages, with 319 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $5.00 net; half morocco, $6.50 net.

This book is intended to give the doctor the essential points in anatomy which he must know if he wants to do intelligent and successful surgery. Both the routine operator and the occasional surgeon can find many things in its pages which will help him in the operating room. The work covers the field of surgery fairly well and goes into the landmarks of surgery briefly and succinctly. There is a great demand for works of this kind for the practitioner of surgery. Technique of surgery is readily mastered and depends for its execution

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more upon individuality and natural mechanical genius than upon anything else. But the knowledge of surgical anatomy is the foundation upon which technique is constructed. Technically perfect though a surgeon may be, he stands absolutely helpless unless he knows his surgical anatomy. He can not do a successful operation without a surgical anatomical knowledge of high order. How can he make a muscle restoration unless he knows how to pick up the muscles? Yes, he can ligate arteries that he may cut in his ignorance, but he can not do what he set out to do, repair disordered parts, unless he knows where to pick up these parts.

We commend this book of Campbell's on surgical anatomy and urge all who aspire to do surgical work to read it from cover to cover and then to begin over again, and read it again. You can be "shy" on technique, but you can not be "shy" on surgical anatomy. Better be "long" on surgical anatomy and "short" on technique than *vice versa*.

MEDICAL GYNECOLOGY.—By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 675 pages, with 135 original illustrations. Philadelphia and London: W. B. Saunders Company, 1908. Cloth, $5.00 net; half-morocco, $6.50 net.

This book deals entirely with the medical side of gynecology. There is a recognized field for diagnosis and treatment of gynecological disease from the standpoint of non-operative procedures. Most of the text-books on gynecology are practically works on operative surgery of the female genitalia. This present volume aims to teach the practitioner how to make a diagnosis of gynecological disease, and how to institute conservative treatment in indicated cases. There is no doubt but that the author has struck a much-neglected field, and he has cultivated it well by giving most pertinent and valuable directions in treating gynecological disease by what to the initiated we must term "medical measures." The theme throughout the book is to explain the proper conditions for medical treatment, holding the operative procedures in the background as the *dernier resort*.

THE PRINCIPLES AND PRACTICE OF HYDROTHERAPY.—A Guide to the Application of Water in Diseases, for Students and Practitioners of Medicine. By Simon Baruch, M. D., Professor of Hydrotherapy in Columbia University (College of Physicians and Surgeons), New York; Medical Director of the Hydriatic Department of the Riverside Association; Consulting Physician to the J. Hood Wright Memorial (formerly Manhattan General) Hospital; to the Montefiore Hospital for Chronic Invalids; Member of the New York Academy of Medicine; Formerly Gynæcologist to the Northeastern Dispensary; Physician for the Ear, Eye and Throat to the Northeastern Dispensary of New York City; Physician and Surgeon to the New York Juvenile Asylum, and the Chief of the Medical Staff of the Montefiore Home for Chronic Invalids. Third Edition, Revised and Enlarged, with Numerous Illustrations. New York: William Wood & Company, 1908. Price, $4.00 net.

This is the third edition of Dr. Baruch's well-known work on Hydrotherapy, which shows considerable revision and enlargement over the previous editions. It goes without saying there is an urgent need for a special work on this subject, because Hydrotherapy has received but scant attention in the average text-book on general medicine.

Hydrotherapy is now taking a firm position in the armamentarium of the modern physician. The reduction of temperature by the means of cold water is now looked upon as the proper treatment. This author has spent one-half a century in the study and practice of medicine. During the first of this period he was uninformed on hydrotherapy, but during the latter part he has endeavored to understand and utilize it. He has, therefore, subjected water to the crucial test of long-tried experiment.

No one can obtain an appreciation of the proper way to use water in the treatment of disease until he has read a book on Hydrotherapy. There is no man in the world who knows more about Hydrotherapy than Dr. Baruch, and this work gives to his readers an exact outline of his wide knowledge. There is a great deal of misconception even among medical men as to just how and when to use water in the treatment of disease. Few understand the exact benefit derived from the One-Half Bath, Affusion, Sheet Bath, Drip Bath, Cold

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Rub, Wet Pack, Wet Compress, Chest Compress, Full Bath, Hammock Bath, Douche and Hip Bath, Irrigation, the Prostatic Cooler, Steam as a Therapeutic Agent, the Internal Use of Water, the Diagnostic Bath, etc.

These points and many others too numerous to mention are carefully considered in this book, and we therefore recommend it to our readers. This is essentially a practical book, and practical books above all are what the medical profession is reaching out for.

REPRINTS, PAMPHLETS, ETC., RECEIVED.

Treasury Department, 1908, U. S. Public Health and Marine Hospital Service.

Assistant Surgeon-General J. M. Eager, M. D., "The Present Pandemic of Plague."

Clarence M. Nicholson, M. D., "Cystic Degeneration of the Kidney." Reprinted from *Annals of Surgery*, August, 1908.

Bransford Lewis, M. D., "Practical Cystoscopy; Its Scope and Limitations." Reprinted from *Journal A. M. A.*, May, 1908.

F. X. Dercum, M. D., "The Supposed Evils of Expert Testimony." Reprint from *New York Medical Journal*, July 25, 1908.

Jesse S. Myer, M. D., "A Portable Gastric Lavage Outfit." Reprinted from *The Journal of the American Medical Association*, June 30, 1906.

John Edmund Mackenty, M. D., "Trichinosis of the Upper Respiratory Passages, with Report of Cases." Reprint from *American Medicine*, February, 1908.

Frank R. Fry, M. D., "A Study of the Sensory Symptoms of a Case of Potts' Disease of the Cervical Spine." Reprint from *The Journal of Nervous and Mental Diseases*, March, 1907.

Jesse S. Myer, M. D., "The Esophagascope as a Diagnostic and Therapeutic Aid in Esophageal Obstruction—Report of Cases." Reprinted from *The Medical Record*, August 1, 1908.

Frank R. Fry, M. D., "Progressive Hemiplegia of the Left Side Due to Cliosis and Vascular Lesions of the Right Centrum." Reprint from *Interstate Medical Journal*, Vol. xv, No. 8, 1908.

Lucy Waite, M. D., "The Clinical Significance of Uterine Deviations." Reprinted from the Transactions of the XV International Medical Congress held at Lisbon in April, 1906.

Jesse S. Myer, M. D., "Examinations of the Feces as a Routine Procedure," and "The Determination of Traces of Blood (Occult Hemorrhage) in the Feces and Stomach Contents." Reprinted from *The Interstate Medical Journal*, August, 1908.

CLINICAL NOTES.

PARALDEHYD IN INSOMNIA.

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SALICYLATES AS ANTIPYRETICS.

"In the Calcutta *Medical Journal* for February, 1908, Ghosh makes a few observations on the salicylates as antipyretics and hepatic stimulants. He asserts there are few drugs in the Pharmacopœia which can excel sodium salicylate in its action on the liver. It stimulates the latter to increased activity, causing an increase in the flow of bile, which is rendered more watery, and is, at the same time. excreted under a higher pressure. In ordinary fever, with some hepatic derangement and congestion, it has invariably been used with the customary diaphoretic mixture, with good results. Moreover, the general discomfort and the indefinite sort of pain over the whole body, so often complained of by such patients, are, as a rule, relieved by this drug.

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THE LOCAL TREATMENT OF CATARRHAL CONDITIONS AFFECTING THE UPPER AIR PASSAGES.

By E. C. Roemele, M. D., Frankfort, Ky.—E. J., aged 24. Diagnosis: Chronic nasal, catarrh. Duration, three years. Patient complained of a feeling of fullness in the nares and increase of the secretions, the character being thick and greenish, which dropped posteriorly into the pharynx, causing paroxysms of "hawking," which were more marked in the morning just after arising. The voice had a peculiar nasal intonation; the sense of smell was abolished almost entirely, and hearing was impaired, due to the extension of the inflammation into the eustachian tubes. The patient also complained of a constant dull headache. I at once prescribed Glyco-Thymoline,

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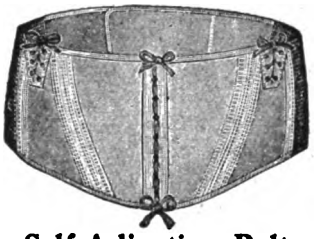

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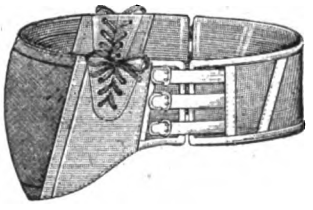

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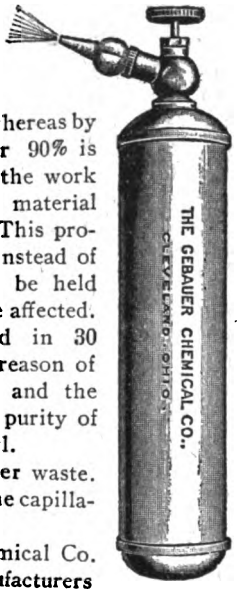

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and had him use the K. & O. Nasal Douche every four hours, using the Glyco-Thymoline in 25% solution. I directed him to spray his throat with an atomizer, using undiluted Glyco-Thymoline every four hours, and also gave him one teaspoonful of Glyco-Thymoline four times a day, internally. This was done on account of the catarrhal condition of his stomach. After two weeks the hawking had ceased, his voice took on a more natural tone, and hearing and smelling senses were improved. He continued to improve, when, after fifteen weeks he was entirely cured. There has been no return during the past ten months.

HAMAMELIS VIRGINICA.

In an address, delivered April 26, 1905, before the Danbury Medical Society on "The Practical Value of Old Remedies," John V. Shoemaker, M. D., LL. D., of the Medico-Chirurgical College, Philadelphia, Pa., spoke of Hamamelis in the following terms:

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Another prominent author says: "The distilled extract of Hamamelis is a valuable application to sprains and bruises. Hamamelis is very useful in checking epistaxis, bleeding sockets after the extraction of teeth, bleeding hemorrhoids, and many other forms of hemorrhage. An ointment containing Hamamelis is of service in burns, eczema, erysipelas, sunburn, seborrhea, acne, etc. When given internally, this remedy exerts an astringent and sedative action. It is also highly valued in the treatment of acute and chronic diarrhea, dysentery, hemorrhage from internal organs, purpura hemorrhagica, varicose veins and ulcers."

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Bronze Bust to Dr. Byron Robinson.

The students of Dr. Byron Robinson are erecting a bronze bust to him. The affair is in the hands of Dr. Benjamin Orndoff, 2277 Wilcox avenue, Chicago, Illinois.

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The Medical Brief

A Monthly Journal of Practical Medicine.

VOL. XXXVI. ST. LOUIS, MO., DECEMBER, 1908. NO. 12.

FILARIAL DISEASES.

BY WILLIAM F. THORNTON, M. D., Bluefields, Nicaragua, Central America.

[Written for the MEDICAL BRIEF.]

In tropical and sub-tropical countries there occurs a group of endemic diseases comprehended under the term Filarial Diseases. These diseases occur in the lymphatic system and are attributable to the presence of a parasite, *Filaria bancrofti*. Under this head hemato-chyluria, elephantiasis (Arabum), lymph scrotum, varicose glands, lymphatic varix, and other forms of lymph-angiectasis are included; in other words, with a series of diseases connected with inflammation or obstruction of some part of the lymphatic system.

There are five species of filarial worms (*Filaria bancrofti* (*nocturna*), *F. loa* (*diurna*), *F. perstans, F. demarquayi, F. ozzardi*), the embryos of which, very much alike in size and appearance, appear in the peripheral human blood. According as to whether they can be found in the peripheral blood during the night or day, or at any time, they have received distinguishing names: *Filaria sanguinis hominis nocturna, f. s. h. diurna* and *f. s. h. perstans.*

HISTORY.

These parasites of man were for a long time known only in their larval state. In 1863, Demarquay, in Paris, discovered that the fluid from the hydrocele of a Havanese, emptied by puncture, contained microscopic round worms, the embryos of a nematode. Three years later Wücherer, in Bahia, observed them in the urine of twenty-eight cases of tropical chyluria, and in one case of hematuria. Salisbury also observed them in a case of chyluria, and gave them the name of *Trichina cystica.* The next discoveries in Calcutta, Guadeloupe and Port Natal related to chyluria patients; until in 1868 Lewis, without having had any knowledge of these discoveries, discovered the embryos in the blood of man, and also in the lymphatic secretions of persons afflicted with elephantiasis scroti, and in the blood of hematuric people. He also, in exceptional cases, found them in apparently healthy persons. He concluded that these were not accidental coincidences, but that the different diseases were related, and were dependent on the presence of this hematozoon, to which he gave the name of *Filaria sanguinaris hominis.* The adult female of this species

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was discovered in Queensland by Bancroft, and soon after Lewis found it in Calcutta; it was described by Cobbold as *Filaria bancrofti.* The male was first seen by Bourne in 1888.

Sir Patrick Manson has advanced the hypothesis that the adult of *Filaria sanguinis hominis diurna* is the *Filaria loa.* The embryo resembles that of *Filaria bancrofti,* but appears in the blood during the day only.

Filaria perstans, in its embryo form, was discovered by Sir Patrick Manson in 1891, in the blood of a West African negro suffering from sleeping sickness. Later he found it in the blood films from natives of the Congo and Old Calabar. In 1897 he examined the blood of Carib Indians sent by Dr. Ozzard from British Guiana, and found larval filariæ closely resembling those of *F. perstans,* together with other sharp-tailed larvæ slightly larger in size, but equally deprived of a sheath (the sheath being characteristic of *f. s. h. nocturna and diurna*). He provisionally gave to these filariæ the name *F. ozzardi.*

In 1898, at the post-mortem examination of two Demarara Indians, Dr. Daniels found the adult forms, both male and female, of the blunt-tailed embryos (*F. perstans*), and soon after the adult forms of the sharp-tailed embryos. This showed that the differently shaped embryos belonged to two different specimens, one of which was undoubtedly a new species, and retained the name, *F. ozzardi,* suggested by Manson.

Adult forms of the African blunt-tailed embryo were next found by Dr. O'Neil at the post-mortem of a Congolese patient who died from sleeping sickness, and Manson, after a comparison between these and the British Guiana specimens, came to the conclusion that they were identical.

Filaria demarquayi was discovered by Sir Patrick Manson in 1895, in blood films from natives of St. Vincent, West Indies. Identical embryos have been seen by Manson, Galgey, Low and St. George Gray in the blood of natives of St. Lucia, and Low found them also in the blood of natives of Dominica and Trinidad.

The adult female form of *F. demarquayi* was found by Dr. Galgey in the body of a native of St. Lucia, in whose blood the embryos had been found during life. The male has still to be found.

GEOGRAPHICAL DISTRIBUTION.

Filarial diseases only occur in tropical and sub-tropical countries, and it exists for the most part endemically along sea coasts and on the shores of large rivers. Within these regions there are small, narrowly circumscribed centers to which the disease is confined, while the whole vicinity, notwithstanding similar climatic conditions, the presence of the intermediate host of these parasites, and the presence of abundant chance of the further introduction of the specific parasite, are quite or almost entirely exempt.

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Dr. Low, who made a thorough examination of the West Indies, noted the same striking peculiarity of the parasite being practically limited to one spot, regarding *F. demarquayi,* on the Islands of St. Lucia and St. Vincent. St. Lucia has one main town, Castries, and five villages. On examining the blood of people from these different villages, Dr. Low got the following results: One village called Gros Islet, 62 people examined; 16 or 25.8%, infected with *F. demarquayi.* Sanfriere, 78 examined; 2 infected. Those two, however, had lived in Gros Islet. Anse-la-Paye, none. Vieux-font, none. Castries, 3 infected; 2 had lived in different parts of the island, Gros Islet included; the third, a negro, aged 19, was born and raised in Charlestown, Nevis, until 17 years of age, then went to Castries, and remained there; never in Gros Islet. Dr. Low considered it possible that he may have been infected at Nevis before going to St. Lucia.

St. Vincent, like St. Lucia, has one main town, Kingston, and several villages. Dr. Low examined blood from all those places, with the following results: Calliagua, 50 examined; 16 infected—32%. The others were all negative, with the exception of two cases who had lived at one period in the infected village.

Filaria bancrofti is known in nearly all tropical countries. It occurs in India, China, Japan, Australia, the Islands of Polynesia (with the exception of the Sandwich Islands), Egypt, Soudan, Tunis, the south of the United States of America, Central and South America and the West Indies. I can find no report of the previous observation of *F. bancrofti* in Central America. Most authors credit it to these countries from the fact that elephantiasis prevails.

Filaria loa occurs on the west coast of Africa and in the Congo district. It was formerly common in South America, where the parasite was imported by slaves, but it disappeared when the traffic ceased, probably for want of the intermediate host.

Filaria perstans has a wide distribution along the west coast and central districts of Africa, and in South America it is very common among the aboriginal Indians in the interior of British Guiana, and on the coast near the Venezuelan boundary, where the forests stretch to the sea. It has not been found on the east coast of Africa, nor did Dr. Low find it in any of the West Indies. Topographically, it is found only in areas covered by dense forests and abounding in swamps. Towns and cultivated areas are free from it.

Filaria demarquayi has been found in the West Indies on the Islands of St. Lucia, St. Vincent, Dominica and Trinidad, and possibly St. Kits.

Filaria ozzardi is only known among the natives of British Guiana.

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DESCRIPTION.

The filariæ are a genus of nematode, or thread worms, of the family *Filariidæ*. They are mostly very long and slender, the male usually considerably smaller than the females. The tails of the males are bent or spirally rolled. The vulva is always situated at the anterior extremity. They live parasitically in the lymphatic system and connective tissue.

Filaria bancrofti—The male is colorless, and measures about 40 mm. in length and 0.1 mm. in breadth. The cephalic extremity is a little thickened, the posterior extremity is bent and rounded, but is not twisted cork-screw-like. The anal orifice opens 0.138 mm. in front of the posterior border. There are three pairs of small pre-anal and an equal number of post-anal papillæ. The female is brownish, 76-80 mm. in length, 0.21-0-28 mm. in breadth; the cephalic and caudal extremities are rounded; the vulva is 1.27 mm. distant from the head, and the anus 0.28 mm. away from the posterior extremity. Almost the entire body is occupied by two uteri, packed with larvæ, from which the larvæ escape early. They are viviparous, but exceptionally they also deposit eggs; the young larvæ, by means of the lymph stream, reach the blood.

Habitat—They have been found always in, or in connection with the lymphatic system, in almost every part of the body. The embryos average 0.3 mm. in length and 0.007 mm. in breadth (about the width of a red-blood corpuscle, and fifty times in length); the tail is sharp-pointed. They are enveloped in an exceedingly thin structureless sheath which closely envelops the greater part of the body, but which extends beyond the head of the body, and, particularly, beyond the tail, where it sometimes appears in the form of a delicate flagellum. Within this sheath the embryos project themselves backwards and forwards. The movements are continuous, but not progressive.

Filaria loca—Since Sir Patrick Manson advanced the hypothesis that the *f. s. h. diurna* is the embryo of the *Filaria loa,* evidence has been accumulating to confirm it. W. T. Prout reports three cases in which the adult worm had been seen passing across the conjunctivæ, but had not been excised, because it had not been possible to call a medical man before it had disappeared. In two of these cases in which he had not been able to examine the blood more than once or twice, the examination was negative. In the other he was able to get a series of slides, with the following results:

First day—12, noon, 4; 8 p. m., 2; 12, midnight, none.

Second day—4 a. m., none; 8 a. m., none; 12, noon, 2; 4 p. m., none; 8 p. m., none; 12, midnight, 1.

Third day—4 a. m., none; 8 a. m., none; 12, noon, 3.

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A space equal to a square cover glass was examined. The degree of blood infection was, therefore, not great, but the periodicity was well-marked, filariæ being found on each day at noon, only once during the night.

The adult male measures from 22-30 mm. in length and 0.3-0.4 mm. in breadth. The anterior extremity is narrowed and conical, the posterior extremity is bent ventrally. In front of the anus, on each side, are three globular, pedunculated papillæ of different sizes, set close one behind the other; behind the anus, on either side, are two small papillæ. The female measures 32-41 mm. in length, and 0.5 mm. in breadth. The anterior extremity is conical, the posterior one straight, attenuated, rounded off; the vulva is 2.35 mm. distant from the head.

Habitat—In the connective tissue, either subcutaneous or in sub-peritoneal tissues, or of the conjunctivæ, between it and the bulbus oculi; sometimes, however, it retires into the depth of the orbit, to emerge nearer the surface after a longer or shorter time. It also becomes visible when it approaches the surface in any situation where the tissues are thin and lax, as in the scrotum and penis, from all of which specimens have been excised. The embryo resembles that of *F. bancrofti,* being about 0.3 mm. in length and 0.007 mm. in breadth; tail, sharply pointed; sheathed; it is distinguished from the latter by the fact that in it the granulation of the intestines is lacking, and that it appears in the blood during the day.

Filaria perstans—The adult male measures 45 mm. in length and 0.06 mm. in breadth. The diameter of the head is 0.04 mm. Close to the anal opening there are four pairs of pre-anal and one pair of post-anal papillæ. The adult female measures 70-80 mm. in length by 0.12 mm. in breadth. The head is club-shaped, and measures 0.07 mm. in diameter. The genital pore opens 0.6 mm. from the head. The tail is curved, with the anus situated in the concavity of the curve formed by the tail.

Habitat—In the connective tissue at the base of the mesentery.

The embryo measures 0.2 mm. in length and 0.0045 mm. in breadth. It has a blunt, truncated tail, and possesses no sheath. It is present in the peripheral circulation both day and night. The movements of *Filaria perstans* are different from those of the two preceding; the latter, in spite of their lively mobility, do not stir from one place, the former show a worm-like and serpentine progression, and move rapidly and freely all over the slide. Locomotion, however, has been observed in embryos of *F. bancrofti* that have cast off their sheath.

Filaria demarquayi—The adult female measures from 65-80 mm. in length by 0.21-0.25 mm. in breadth. The head has a diameter of 0.1 mm. The genital pore opens 0.76 mm. from the head. The tail is curved and rapidly diminishes in size just below the anal papillæ; its diameter near the tip is 0.03 mm. *F. demarquayi* is a thicker worm than *F. perstans.*

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It differs from *F. bancrofti* and *F. ozzardi* in the greater size of the head and in the smaller tail. The male has not been found.

Habitat—In the connective tissue of the mesentery. The embryo measures 0.2 mm. in length by 0.005 mm. in breadth; it is sharp-tailed and has no sheath. Its movements are very active, and the absence of a sheath enables it to move freely all over the slide.

Filaria ozzardi—The adult male measures 38 mm. in length by 0.19 mm. in breadth. The adult female measures 81 mm. in length by 0.21 mm. in breadth. The head has a diameter of 0.05 mm.; the genital pore opens 0.71 mm. from the head. The tail is bluntly truncated, and slightly bulbous.

Habitat—They have been found only once by Dr. Daniels in the subserous connective tissue of the anterior abdominal wall. The embryo measures 0.21 mm. in length by 0.005 mm. in breadth; it has a sharply-pointed tail and no sheath. It is found in the blood day and night. It is indistinguishable from those of *F. demarquayi*.

DETECTION.

The detection of the embryos in the blood is not difficult. As seen in fresh blood they are clear, transparent, worm-like bodies, which are in active movement; the disturbance among the red-blood corpuscles readily catch the eye. With a No. 3 objective they can be located and then examined in more detail with a No. 6 or 1/12 oil immersion objective. At first the movements of the filariæ are so active that it is impossible to examine them with the higher powers, but later the movements become sluggish, and finally cease, the filariæ being in an extended or slightly bent position. The best time for examination is just before the cessation of movement.

No special precautions are required in preparing the slides. Sufficient blood should be taken to completely fill the space between slide and cover-glass; not so thin as that used for examination for malarial parasites. Slides taken at night can be ringed with vaselin to prevent evaporation and drying, and examined the next day, the filariæ remaining alive several days.

Daniels' method of preparing dried films is excellent:—Allow three or four drops to fall on a slide close together, and smear them together into a square about two-thirds of an inch in size. Such a film will be so thick as to be almost opaque. When dry, place in distilled water, film side downward, but not resting on the bottom of the vessel, to dissolve out the hemoglobin. Remove the slide and examine whilst still wet. The white corpuscles will stand out from the films as refractile spots, and the white, colorless worms will also stand out brilliantly. The filariæ stains with any basic stain. Weak methylene blue, carbol-fuchsin or hematoxylin stains in ten or fifteen minutes; the sheathed filariæ not staining rapidly.

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A concentrated alcoholic solution of carbol-fuchsin stains in five to ten seconds. Fix films with absolute alcohol. The number of filarial embryos present in specimens varies extraordinarily. Sometimes a number of slides have to be examined before one embryo is discovered. In other cases every slide will show them in great numbers.

In 1879 Manson made the interesting discovery of the periodicity, or time of the appearance, of the embryos in the peripheral blood.[1] He found that the embryos of the *F. bancrofti* begin to show in the blood after sunset, gradually increasing in numbers up to midnight, when they attain their maximum, and gradually decreasing in number up to seven or eight in the morning; from midday until evening they are rarely found. This cycle can be reversed in the case of *F. bancrofti.* If the patients are made to sleep in the daytime and remain awake at night, the filariæ appear in the daytime and disappear at night.

The embryos of *F. loa* (*diurna*) appear in the blood during the day only, but a change in the habits of the patient has no effect in inverting its periodicity.

The embryos of *F. perstans, F. ozzardi* and *F. demarquayi* observe no periodicity, being found in the blood of patients at all times, day or night.

For some time it was not known what became of the embryo filariæ during its temporary absence from the peripheral circulation during the day. Did it die, or did it retire for the time-being to the internal organs? The question was settled in so far as *F. bancrofti* is concerned, at the post-mortem of a case of lymph scrotum and varicose groin glands in which death occurred at 8:30 a. m., by suicide with hydrocyanic acid. It showed no embryo filariæ in the blood from the peripheral vessels; none from blood of the liver and spleen; very few in the kidneys and brain; but in the blood expressed from the lungs, in sections of the lungs, in the aortic blood, in blood from the heart and in the vessels of the heart muscles, but especially in the lungs they were found in thousands in every drop. They therefore retire during the day to the lungs and larger blood vessels.

No satisfactory explanation has been advanced to explain the singular periodicity of the *F. nocturna.* One explanation was wholly teleological, and takes for granted that the filaria adapts itself to the nocturnal habits of its intermediate host; in conformity with a certain instinct the embryos circulate in the blood at night because the mosquitoes (*culex fatigans*) swarm during that time, and the embryos must be taken up by them in order to develop further. Again it was supposed to be probably dependent on the periodical daily repeated deposit of the embryos by the parent worm. This is contradicted by the fact that chylous urine, as well as lymph oozing from a lymph scrotum contains embryos at all times of the day. Lancereaux, conjecturing that light exercised some influence, shut a patient in a dark room, but could find no filariæ in the blood.

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Meyers believed that the embryos led an ephemeral life in the blood; that they are drawn into it in the night in consequence of its containing more oxygen at that time, and die off in the morning in consequence of the relatively small quantity then present in the blood. He was unable, however, to find the remains of dead embryos.

According to v. Linstow, the nocturnal appearance of the embryos in the blood is intimately connected with sleep, and depends on the fact that the cutaneous peripheral vessels are somewhat dilated during sleep, but are contracted during the waking condition. This contracted capillary system of the skin can not be passed by the filariæ; they therefore rest by day in the larger branches deep in the cutis. This does not explain that generally the embryos begin to come into the peripheral blood about 6 p. m., some hours before bedtime, and begin to disappear from the circulation after midnight, when sleep is soundest. Then, again, if the *Filariæ nocturna* can not pass into the contracted capillary system of the skin, how explain the periodicity of *Filaria diurna,* which is exactly the opposite? These two specifically distinct embryo filariæ resemble each other so closely in size, structure and movement, that it is practically impossible to distinguish them with a microscope, and yet one is a day worm and the other a night worm. And in the case of *F. nocturna,* by changing the habits of the patient the periodicity is easily inverted; such is not the case in *F. diurna.* The subject of *F. diurna* infection may sleep during the day and keep awake at night, but the embryos continue to disappear at night and reappear during the day.

Lately it has been advanced that the periodicity of *F. nocturna* is due to some physiological product of metabolism that forms during the waking hours, and which, during the day, drives the embryos from the surface of the body, or draws them to certain internal organs.

INTERMEDIATE HOSTS.

In but one, *F. bancrofti,* of the filariæ here considered has the further development of the embryo been successfully traced. Unlike the *F. medinensis* (*Guinea worm*), whose embryos are discharged on the surface through a small aperture in the skin produced by the adult female, and thus gains access to water and its intermediate host, a species of fresh-water cyclops, where it undergoes further development, and is reintroduced into man in drinking water; or may obtain access to the human tissues in the same way the ankylostomum does by boring its way through the skin; the *F. bancrofti* requires an abstracting agent, which serves not only as a medium for developmental changes but as a reimplanting agent as well. This can be demonstrated by allowing fifteen or twenty mosquitoes (*culex fatigans*), reared from the egg, and which have not previously fed on blood, to feed on a patient whose blood has

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already been found to harbor embryos of *F. bancrofti.* Catching these carefully, one or two can be used daily for dissection or section. From these sections can be followed the story of the life of the filaria in the mosquito to the time when it is ready to be reimplanted by the mosquito into another human host.

I quote, in its entirety, Sir Patrick Manson's graphic description of this development: "The first step in this evolutionary process is, perhaps, the most interesting, showing, as it does, the marvellous adaptiveness of nature; the ingenuity, if I may use such an expression, she exercises in overcoming difficulties and in attaining her end.

"I have already pointed out that the young filaria, while in the human host, is enclosed in a loosely-fitting sac in which it can move backwards and forwards with great freedom. The sac is longer than the worm it encloses. On close scrutiny with high powers of the microscope you will be able to make out that the blunt, or head end of the worm, is provided with a short and delicate spine, and also with a circlet of hooked lips. You can see that both spine and hooklets, or rather lips, are protractile and retractile. The sheath in which the filaria is enclosed is, I believe, a provision designed to prevent the premature use of this armament on the blood vessels of the human host, and the consequent escape of the worm into the tissues, where it would be beyond the reach of the friendly mosquito. On entering the mosquito's midgut, or, as it is generally called, stomach, the first thing the filaria does is to get rid of this muzzling sheath, and so uncover its formidable head armature. Soon after it has been drawn up through the proboscis, in consequence of the absorption of a considerable part of the water it contains and the diffusion of the hæmoglobin under the action of the digestive juices, the blood in the stomach of the mosquito becomes thickened and acquires a viscid consistency. The filariæ at once perceive the change in the mechanical condition of the medium in which they are swimming. They become violently excited, and rush backwards and forwards in their enclosing sacs, which are now held, so to speak, by the viscidity of the blood. The little animals are evidently making frantic efforts to get out of their sheaths. Retiring to the tail-end of their sheaths ever and anon, they rush forward, butting the head-end with great violence. The sheath is no longer carried before the head as it was when in the fluid blood of the human blood vessels. It is held by the thickened blood. The attempts to escape are renewed again and again with increasing vigor, till at last the head-end of the sheath gives way, and the little worm swims free in the viscid mass. At once it steers a straight course for the wall of the mosquito's stomach. This it attacks with spine and hooks, and, quickly piercing it, bores its way through. Within a few hours it has found its way to the thoracic muscles, in which it comes to rest between the fibers. Here it lies for a fortnight, or longer, undergoing great developmental evolution. In the course of ten days to

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a fortnight, or three weeks, it acquires an alimentary canal, and, greatly increased in size (1.5 mm. in length). When these changes have been effected the now formidable-looking worm resumes its travels, working its way to the head of the mosquito, and finally passing down into the labium, or sheath of the proboscis. In this situation it lies outstretched patiently waiting for an opportunity to escape. This opportunity comes when the mosquito next proceeds to feed on man. Into the little puncture in the skin which the mosquito makes the filaria passes by breaking through the delicate membrane that unites the two labellæ that form the distal end of the labium, and so once more it returns to the human host. Ultimately it finds its way to the lymphatic trunks where the sexes come together, and the young are born. These, in their turn, find their way into the circulation, and there await their chance of a visit from the mosquito. In this way the filaria passes from man to man, and in this way the elephantoid diseases are acquired and communicated."

The fact that *F. diurna* appears in the blood during the day, would indicate that the embryos are liberated by a blood-sucking insect flying in the daytime; the so-called mangrove flies are suspected to be the intermediary hosts.

To find the intermediary host of *F. perstans*, Dr. Low made numerous and careful experiments with many different species of mosquitoes (of the genera *Culex, Anopheles, Stethomyia, Janthinsonea, Mansonia, Uranotaenia* and *Taeniorhynchus*), and other blood-sucking insects (*Culex irritans* and *penetrans*, and *Pediculus capitis*). These insects were caught in the huts of infected persons, or they were reared from the larvæ, and then fed on infected persons. After a certain time they were dissected, but, with one exception, the results were negative. In one instance two developmental forms were seen between the thoracic muscles of a *Taeniorhynchus fuscopennatus* reared from the larva and fed on infected persons. This seems to prove that the *F. perstans*, in its proper intermediary host, like *F. bancrofti*, develops between the thoracic muscles.

Dr. Sambon thinks that the intermediary host is to be found amongst the blood-sucking flies.

Dr. Wellman has brought forward some strong evidence that they can undergo a metamorphosis in ticks.

SYMPTOMATOLOGY.

Apparently the embryos in the blood or lymph are harmless; being no broader than the red-blood corpuscles, they cause no mechanical obstruction in the blood or lymph vessels. The adults of *F. demarquayi, F. ozzardi* and *F. perstans* having their habitat in the connective tissues, and generally at the base of the mesentery or the anterior abdominal wall, have no pathological lesions attributable to them.

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The *F. loa,* whose habitat is in the subcutaneous and subconjunctival connective tissue, cause, when found in the eye, symptoms of irritation, tickling and soreness; when it approaches the surface, especially where the skin is thin, it is, at times, accompanied by intolerable itching for several days, then a watery bleb forms, which subsides in a day or two; or, when they occur on the head, arm, leg or feet, the itching is slight, but accompanied by a circumscribed swelling. Sir Patrick Manson has suggested the relationship of *F. loa* to Calabar swelling, and Drs. Habershon and Argyll Robertson have cited cases of localized swellings. With *F. bancrofti,* however, is found associated a long list of pathological conditions connected with inflammation or obstruction of the lymphatic system by bundles of the adult filariæ, either alive or dead, and ova, the ova being five times the diameter of the embryo coiled up in their interior, that have prematurely escaped in consequence of injury to the adult by traumatism or septic infection. The latter, inflammation of the lymphatic vessels causing lymph stasis, being deemed essential in the causation of elephantiasis.

Hemato-chyluria, as a rule, occurs intermittently, but has been known to continue uninterruptedly. During the intervals the urine is practically normal. The attacks, which may occur spontaneously, or follow severe mental or physical excesses, are, at times, preceded by fever, with pains in the back, abdomen, groin or scrotum and perineum.

The urine is characteristic, and, once seen, can hardly be mistaken. At times hematuria predominates; at others, chyluria. When allowed to settle it usually separates into three layers: the blood at the bottom, usually as coagula, then a reddish or opaque white layer, with a small cream-like layer at the top. Towards the end of the attack it occasionally is milky throughout, with a peach-colored tint. At other times a jelly-like coagula forms, taking the form of the receptacle; this may occur in the bladder, causing temporary retention of urine. The microscope shows the presence of fat. Red and white blood corpuscles are found, and occasionally filariæ. The disease may extend over many years without seeming weakening of the patient. In other cases anemia and emaciation set in, and the patient succumbs. It is observed more frequently in the colored races than in the whites, and is a disease of middle age. Women are more frequently attacked than men. Pregnancy and parturition are predisposing causes.

In *elephantiasis* the subcutaneous tissue is enormously hypertrophied from increase of fibrous tissue in various stages of development. It is mostly situated in the lower extremities and the genitals—in man in the scrotum and penis, and in women in the labia pudendi and clitoris. Pendulous, pendunculated, elephantoid masses are at times seen in the inguinal region. It is remarkable that in the South Sea Islands the arms and breasts most frequently become attacked.

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Elephantiasis develops with symptoms of lymphangitis, which return at irregular intervals. The attacks usually commence with severe rigors, followed by high fever, 104-106° F.; headache, thirst, vomiting, and, at times, delirium. The lymphatic vessels can be felt as tense cords interrupted by nodules at the location of the valves. The glands swell, and are painful. After a few days a profuse perspiration breaks out, and, accompanied, at times, by a lymphorrhagia from the diseased part, the inflammation then disappears. An abscess may form, or the diseased part become gangrenous, and death may result from blood-poisoning.

Fever of this kind (elephantoid), which is frequently mistaken for attacks of intermittent fever, occurs not only in elephantiasis, but in the other forms of filarial disease.

After every attack of lymphangitis the swelling of the skin decreases, but a gradually-increasing edema remains. The skin becomes thicker, more dense and firm. Attacking one of the lower limbs, the leg enlarges to twice or thrice its usual dimensions. The constriction and folds at the ankle-joint being obliterated, the cylinder-like leg joins the thickened dorsum of the foot continuously, resembling actually an elephant's leg.

The scrotum, when attacked, becomes an enormous pedunculated mass, reaching from the inguinal region to the knees, or even the ankles, and the penis disappears, or participates in the disease, becoming quite misshapen and unrecognizable. Large hydroceles are often present. Weights of 20 to 30 pounds are not unusual. The largest tumor ever removed is mentioned by Chevers, and was said to have weighed 224 pounds.

The female genitals may be transformed into similar protuberances by the disease.

Subjectively, the patients are mostly only troubled by the deformity and weight of the diseased member, which may impede or prevent locomotion.

Elephantiasis occurs principally in the colored races, but when whites live under the same conditions as the natives, they appear to be liable to the disease in the same degree. It is more frequent in the male than in the female.

Lymph Scrotum is nearly related to elephantiasis scroti, of which it may be but the precursor. Redness and swelling of the scrotum set in, accompanied, usually, by symptoms of fever; vesicles and blebs form on the scrotum, and finally burst, discharging their contents. While slight at first, eventually the fluid is discharged continuously, and may amount to several pints in the twenty-four hours. The fluid is either clear as water or it is milky; or it may be sanguineous. The microscopic examination almost always reveals filarial embryos, though they may be absent from the blood. Manson once found ova in the fluid.

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The scrotum feels soft, with a jelly-like elasticity; it is sometimes smooth, but more often wrinkled. The groin glands, as a rule, are enlarged.

The disorders of the patients partly depend on the weight of the tumor and partly on the drain on the system, due to the quantity of lymph excreted.

Varicose groin glands are observed more frequently in men than in women. The glands are distinguished by a bulging, soft, doughy enlargement the size of a walnut or a fist, over which the skin is unchanged. The femoral enlargement is usually of an oval shape, the long axis of which is in a vertical direction. The inguinal enlargement, as a rule, the larger, follows the course of Poupart's ligament. Both groups of swelling may be present, or the inguinal or femoral alone affected.

Varicose lymphatic vessels may be found, occasionally reaching as low down as the popliteal space. The lymph vessels of the vas deferens may also become varicose. Clear, milky or sanguineous fluid may be drawn off from the varicose lymph glands; this fluid, under the microscope, shows filaria embryos, and, in rare cases, ova. During the periodic attacks of lymphangitis, the glands are painful, otherwise the patient experiences nothing more than a dragging sensation. In women the glands become enlarged during menstruation and pregnancy. Should elephantiasis follow, the soft swelling is transformed into a hard, tense mass.

Lymphatic varix, without varicose lymphatic glands, are occasionally found on different parts of the body, such as the abdomen, legs, arms and head.

A form of orchitis is met at times. It commences suddenly, with symptoms of elephantoid fever. The testicle, accompanied by severe pain, swells quickly to three or four times its original size. When the fever disappears the pain rapidly diminishes, and the swelling gradually subsides. If the effusion is clear, absorption usually takes place. A chylous effusion is not usually absorbed, but develops into a chylocele. The chylocele is less tense than the ordinary serous hydrocele, and is not translucent.

Lewis mentions a case of chyluria in which a copious white fluid flowed to the conjunctival surfaces of both eyes, which were trachomatous. Filariæ were found in the blood, urine and tears.

The separate forms may occur in one individual. It is not uncommon to observe patients who are simultaneously afflicted with hemato-chyluria and lymph scrotum; others with lymph scrotum and elephantiasis of the leg; other, still, with chylocele and varicose groin glands.

The diagnosis of filarial diseases should not be difficult, if their possibility is kept in mind.

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Examination of the urine should readily distinguish hemato-chyluria from cystitis, pyelitis, abscesses which have opened into the urinary passages, hemoglobinuria and ordinary hematuria.

In countries where *bilharzia hematobia* is endemic the microscope may be needed to distinguish it from *Filaria sanguinis hominis.* In the former ova are found in the urine, in the latter embryos. There is the possibility of a double infection.

Elephantiasis is distinguished from leprosy by the consideration of the widely-different symptoms. Most difficulty formerly arose from the unfortunate choice of the same name for the two diseases.

Lymph scrotum may have to be distinguished from eczema. Varicose groin glands have been mistaken for hernia. They are not influenced by coughing; have a dull percussion note, and disappear slowly by taxis, not suddenly, and without gurgling.

Filarial orchitis or hydrocele or chylocele are distinguished by the presence of embryos.

As regards life, the prognosis is not unfavorable. Filariasis may persist for years without seriously affecting the general health. Persons harboring the *F. bancrofti* are likely, eventually, to develop some form of filarial disease. Dr. Low reports two cases in which he had found *F. nocturna* blood films from two of the nurses of a hospital. The cases had been entered in his case-book as "symptoms *nil;*" five years later both of these women developed elephantiasis.

TREATMENT.

The curative drug treatment of filaria has not yet been discovered; how to destroy the parent worm by internal remedies is not known. Several parasiticide drugs have been recommended: Benzoic acid, benzoate of soda, boric acid, thymol, have been tried, but the results have not been encouraging. Flint has recommended methylene blue, and Zellweger reports good results in five cases following its use. Henry found it ineffective in a case of chyluria, for though the filarial embryos were stained blue, their viability did not seem to be affected.

Atoxyl, which has gained considerable reputation in sleeping sickness, has been used intravenously by Dr. R. A. O'Brien, Cairns, Queensland, in two cases. In one case the embryos disappeared, and had not returned up to a year afterwards. The second case was unsatisfactory.

Remedial remedies vary with the several forms the disease presents. In hemato-chyluria, rest in bed, by relieving pressure in the chyle vessels, has a good effect.

Lymphangitis necessitates rest, an elevated position of the part affected, and the use of ice locally.

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In elephantiasis of the legs, rest, an elevated position of the limb, massage, bandaging from the sole of the foot to above the border of the thickened part, together with inunction of mercurial or iodine ointments, are indicated.

Manson recommends excision of strips of the thickened skin in the longitudinal axis of the legs. Ligature of arteries has been abandoned on account of its danger.

Dr. Aldo Castallani, considering the anatomical features of the disease, and the success that has attended the use of thiosinamin in cases of benign fibrous tumors, scars, etc., used it in five cases. As injections of thiosinamin are painful, he used Merck's Fibrolysin, a water soluble combination of thiosinamin and sodium salicylate. The success attending this procedure leads him to the following conclusions:

"1. The treatment I have employed, viz., thiosinamin (fibrolysin), in combination with complete rest, massage, and the use of rubber bandages, induces a distinct improvement for a time, in a certain number of suitable cases of elephantiasis.

"2. When, as a result of the above treatment, the size of the affected parts is much decreased, the subcutaneous fibrous tissue has been largely absorbed, the skin has become softer and more elastic, I advise the removal of long elliptical strips of the redundant skin, and also the removal of the enlarged lymphatic glands. This procedure will probably render the improvement of longer duration."

Treatment of elephantiasis of the genitals is purely surgical. Amputation of the scrotum gives good results. Manson only lost five patients out of a total of 120 cases he operated on. Turner lost two out of a total of 132 cases operated on. Relapses, however, are frequent.

Lymph scrotum may require removal if the part is the seat of frequent attacks of lymphangitis, if the nutrition of the patient suffers from excessive lymphorrhagia, or when it is transformed into elephantiasis of the scrotum.

Varicose groin glands are benefited at times by pressure bandages. Should they become so large as to be troublesome or prevent the patient from following his occupation, removal of the glands and dilated lymphatic vessels may be necessary.

Hydrocele or chylocele seldom attain a size necessitating tapping; they, as well as abscesses forming in filarial diseases, following death of the adult from sepsis, should be treated as in ordinary cases.

In the cases following it is quite possible that Cases 1 and 3 may have been infected before coming to Nicaragua; the other Cases 2 and 4, occur in natives, who have always lived in the immediate vicinity, and accordingly must have been infected here.

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Case 1—I was called to see this patient at 10:30 p. m. A native of the West Indies; he had resided on this coast, in Costa Rica and Nicaragua, for eight years. He had been a laborer on a banana plantation, and gave a history of malarial attacks lasting three or four weeks at half-yearly intervals during the past five years. Blood films were taken to confirm diagnosis, and showed crescent gametocytes. One slide was poorly spread, and no attempt was made at staining. Examining it four days later with a No. 6 objective, I detected a filarial embryo.

Careful re-examination of the patient failed to detect any enlarged lymphatic glands or history of hemato-chyluria. Slides taken at 10 a. m. failed to show embryos. The patient returned home that day, and no further observations, could be made.

Case 2—The history, as furnished by the parents, was that the child, thirteen years old, had been generally healthy, suffering only, as do most residents here from time to time, with mild attacks of malaria, yielding to quinine. Several months before I saw the case, in 1905, she complained of pain in the left leg, and later noticed an enlargement of the femoral glands. Consulting a physician, the parents were advised to apply hot poultices. This advice was followed, but the child not improving, I was called to the case.

I found her with a high fever, 104° F., which had been preceded by a chill the day before; headache, thirst, extreme prostration and history of vomiting. The entire limb was swollen, red and hot; sensitive to motion and touch; the lymphatic vessels could be felt as cords. The lymphatic glands over the cribriform fascia were swollen and painful, and through several small openings in the macerated skin a clear fluid oozed, which, under the microscope, showed many filaria embryos. The following day hemato-chyluria developed. This symptom continued for eight days, then ceased, and has not returned. Blood films, taken at night, showed embryos of *F. bancrofti.*

The child gradually recovered from the attack, and the limb returned to normal size. The glands remaining slightly enlarged, hard and scarred. Slight attacks of lymphangitis have occurred from time to time, as a rule, at the menstrual period. The measurements of the limbs taken July 2, 1908, three years since initial attack, are as follows, measurement of right leg being written first: Ankle, 18½-19½ cm.; calf, 32-32½ cm.; knee, 36½-36½ cm.; thigh, 50-51½ cm.

Case 3—This case, a Chinaman, I saw in consultation with Dr. Alberto Lopez, Government physician at this port.

The patient had been a resident here and on the coast for five years. He gave no history of previous illness, more than an occasional attack of what he had considered malarial fever. Three months ago he suddenly developed, after a week's continued fever, hemato-chyluria. Chyluria pre-

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dominating at first, with the liquid forming a jelly-like mass; then the hematuria predominating for several days, and, finally, chyluria. This attack of hemato-chyluria stopped abruptly, the urine on one day being hemato-chyluric and the second day after appearing normal, with a specific gravity of 1014; slight trace of albumin; no casts. Eighteen days later, following a slight febrile attack, the hemato-chyluria reappeared, and still continued two weeks later, when the patient left for China.

In this third case, blood films taken on three occasions between 11 and 12 at night, showed filaria embryos. Taken during the day, they could not be found, except on one occasion, when Dr. Lopez ordered him to remain in bed and keep quiet.

A small hydrocele, on being aspirated, yielded a fluid containing great numbers of embryos.

The patient presented the appearance of great debility and extreme anemia. The bodily functions were seemingly normal; appetite good; bowels regular; urine, not excessive in amount; sleep, undisturbed. His principal complaints were his weakness, pains across his back, and the alarm caused by the appearance of the hemato-chyluria.

Case 4—Male, aged nineteen years; a native of Bluefields; varicose groin glands in left femoral region, noticed during past two months.

No history of elephantoid fever or lymphangitis. Complains only of annoyance and drugging sensation after a day of hard labor. Size, 9 cm. in length and 5 cm. in breadth.

Filaria nocturna embryos found in the blood.

Literature—Journal of Tropical Medicine and Hygiene, August 15th, September 16th, October 1, 1907; February 15th, April 1st, May 15th, June 1, 1908.

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POISONOUS SHELL-FISH.

The conditions which render such food poisonous are much the same as those in connection with poisonous fish. The most important condition which bears upon the toxicity of molluscs is their habitat. When grown in polluted waters, they take on toxic or infectious characteristics.

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THE REACTION TO TUBERCULOSIS TO TUBERCULIN BY THE CUTANEOUS METHOD, AND THE FREQUENCY OF TUBERCULOSIS IN INFANCY.

By Dr. Clemens Von Pirquet, Vienna.

[Report Expressly for the Medical Brief.]

[Address before a combined meeting of the Medical Society of City Hospital Alumni and the St. Louis Medical Society, October 17, 1908.]

If we make an inoculation of small-pox in a person who has never been vaccinated, we see a characteristic reaction, one that appears not after twenty-four hours, but after three or four days. In vaccination we get first a traumatic reaction, but not a specific one; that is, we get the effects of the mechanical scarification. In two or three days we begin to see the specific reaction which gradually increases, day by day. On the eighth or ninth day we see a stage of the reaction at its greatest height, when we see the so-called "areola." If we make a small-pox inoculation in a man who has been vaccinated before, we do not see an absolute reaction, but only a slight one, a reaction which disappears after a week. After twenty-four hours you will find a slight reaction in such a case. This is what I call an "early reaction." As a diagnostic means, we can tell in this way whether a person has been vaccinated before or not.

After having established these facts with vaccinia, I tried to make a similar proof in tuberculosis. In tuberculosis we can not use tubercle bacilli as in vaccinia because we would infect our patients with tuberculosis. But we can use the Old Koch Tuberculin which is the concentrated extract. In a tuberculous subject we get a skin reaction within twenty-four hours, thus distinguishing between a tuberculous and a non-tuberculous patient.

I will now demonstrate on my own arm how this vaccination is made. The skin on the upper part of the forearm is rubbed with ether on absorbent cotton for cleansing. It is better to wash the skin with ether for this purpose because it evaporates rapidly and leaves the skin dry, whereas the use of a watery solution of an antiseptic would make the tuberculin run off the spot that you wish to vaccinate.

Then I take a vaccination instrument, which only differs from the ordinary kind in that it has no point; in other words, it is shaped like a chisel. The blade of this instrument which I use is made of platino-iridium. The vaccination is made with this instrument by a rolling motion, making an irregular wound. I advise three wounds to be made on the forearm, one above, with the tuberculin; one in the middle which is a control, and you should put no tuberculin on this one, and one below with tuberculin. With this method you can not go very deep. Drop on two drops of the old tuberculin, then make the rolling motion with the scarifier and then put a little piece of cotton over the tuberculin wound until they dry and then pull off this cotton. This keeps the tuberculin from running.

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I will now show you some moulage specimens of the reaction. Some of these specimens show an areola. What does a positive reaction mean? It means that if we get a positive reaction we can say with certainty that the person has had tuberculosis. We have definitely proven this by post-mortem examinations of patients, 200 in number, who have undergone the test. In this 200, there were 109 children with no tuberculosis. In 89 cases, tuberculosis was found post-mortem. Of these 89 cases, 65 gave a positive reaction. I will speak later of the other 24. There were two cases in which there was a positive reaction without an absolute certainty of tuberculosis; in one of these cases there was an adhesion of the pleura and in the other adhesions of the pericardium, so that for practical purposes these two cases can be considered tuberculosis patients. This reaction can be considered as an index of infection with tuberculosis because we look upon it as identical to the "fever reaction" of Koch for which we have many proofs in the adult. It is considered identical because we can get the fever reaction in every case if we resort to enough injection of tuberculin.

I will now speak of all the methods in vogue for obtaining reactions to tuberculosis.

1. *Injection Method*—Here we have a definite sign of tuberculosis, namely, fever, to which Koch attached the greatest importance.

2. *Cutaneous Method*—This is the same as the sub-cutaneous method, only differing in that we do not inject under the skin.

3. *Eye Reaction*—Some time after I described the cutaneous reaction, Calmette and Wolf-Eisner found that the eye was a point where the infection could be detected.

4. *Dermo-reaction*—Legnieres found by rubbing tuberculin into the skin that he could detect tuberculosis in that way.

All these reactions are the same. It is simply a question of telling which reaction to apply in a given case. The eye reaction is easy to perform, but has the disadvantage of being dangerous to the eye when a very strong reaction occurs. The eye reaction is good in cattle.

The most sensible reaction is the injection method, but in many cases the subcutaneous method is not allowed because of the high fever and constitutional symptoms. The skin reaction is more difficult to apply, but it is absolutely harmless. I have made over 3,000 scarifications and I have seen no harmful effects in any case. In 50% of the cases there is a rise in temperature, but if you are very careful in making the scarification and do not go deep into the tissues, you will not even get a fever afterwards.

It is necessary to rub the skin very hard in doing the reaction. The reaction differs in different individuals because you can not always make them in the same way, but for those who fear this, they can use the dermo-

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reaction. It is easy to make the cutaneous reaction, yet it is sometimes expedient to make the subcutaneous reaction as well, merely as a control.

The meaning of the reaction is different in adults than it is in children. We know this from the work of Nageli, that tuberculosis is more prevalent in adults than in children. For instance, 90% of the adults who come to autopsy in Vienna show signs of tuberculosis. This is not always a clinical tuberculosis, but may be a tuberculosis of glands. Even a slight tuberculous infection is sufficient to give this cutaneous reaction. We can not tell so much from tuberculin reactions in adults because they react so easily from slight degrees of infection. Only a very strong reaction the first time of application is significant in adults. The mucosa of the eye is sufficient to arouse bodies which make tuberculous activity. Again, repeated inoculations in adults without any reacton is valuable information in adults. If you inoculate three times in an adult one week after the other, you can say with certainty that the patient is free from tuberculosis, when no reaction occurs in these three attempts.

In children it is different. I spoke before of the twenty-four cases in which tuberculosis was found at autopsy without any activity at all during the lifetime of these subjects. These cases were those in which the reaction was made too late. A first negative inoculation does not prove that the person is not infected with tuberculosis, because there are some conditions in which no reactivity exists, and that is in the last stage of the disease. There is no reaction in the terminal stage of the disease—this fact was well known with the older injections method. Secondly, we have no reaction in children in the last stage of meningitis or generalized tuberculosis, also none in miliary tuberculosis. Thirdly, the reaction ceases as the children get older. Fourthly, we have certain diseases in which the tuberculin reaction ceases. This is true of measles. During measles attacks there is absence of the reaction after the first week. The reaction disappears with the appearance of the exanthem, and the reaction comes back on the sixth or eighth day of the skin eruption of measles. We do not know why this is true, but it is probably due to the old clinical phenomenon that tuberculosis spreads during a measles attack. If the bodies in measles belong to the anti-bodies, then we have an explanation for this occurrence. Other diseases of childhood, diphtheria, scarlatina, do not make this phenomenon. Now this explains why I did not get the reaction in the twenty-four cases.

There are other cases in which there was healed tuberculosis in which there is no reaction. If tuberculosis overwhelms the organism, the reactivity to tuberculin is so low that there occurs no visible reaction on the skin. Some of these twenty-four cases were only tried once, and perhaps some of them might have reacted if we had tried it a second time. I call this a state of "secondary reaction." Secondary reactions are sometimes found in apparently healthy adults. We seldom find tuberculosis in

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small children confined to one small area, but in them it is generally found scattered over the body. Therefore, the most reliable time for the reaction is in the first years of life, ceasing with increasing age of the child. The cases in which it is of most practical utility are those of small children in our ambulant service where the parents do not object to a slight reaction; besides there is no necessity to take the temperature of the children. You can tell these patients to come back in a day or two.

An obscure question that has been frequently solved by this reaction is one like this: If there is atrophy in a child, due either to simple bowel trouble or tuberculosis, you can make the differential diagnosis in this way. Then, if there is an eczema or a scrofulosis, you can make the diagnosis satisfactorily. Then, if there is a difficulty in breathing, which is the first indication of glandular tuberculosis, you can get full light with this test. As a hygienic measure, and we may within a few years make this test in young children, in that way we can take out of school those who are tuberculous. There is no doubt but that this would prevent much of the infection from the sick to the healthy of tuberculosis in kindergartens. As a scientific measure we can make an early diagnosis of tuberculosis in children, in the very early stages of the disease. We now are making diagnoses of tuberculosis, which we think are early diagnoses, but they are really diagnoses of advanced stages. If we make a reaction every year in children we can control the fact whether they are infected or not; then in looking through the history of a child, we can recognize possibly a simple coryza as the first clinical manifestation of an infection with tuberculosis.

PAIN IN INFANTS.

By W. B. Drummond, M. B., C. M., F. R. C. P.
Assistant Physician to the Royal Hospital for Sick Children, Edinburgh.

[Written for the Medical Brief.]

A doctor may be in practice for many years without seeing a single example of many of the diseases which are treated of most fully in the text-books. On the other hand, he is quite sure to be called not infrequently to attend to such cases as are dealt with in this article, and his text-books may fail to give him the precise assistance he needs.

A doctor is called, let us say, to see an infant a few months old which has suddenly begun to cry loudly as if in severe pain. Every effort has been made to soothe it, but in vain. Hour after hour, perhaps, the screams of distress have continued. Now and again, for a few moments, they may have subsided and the child, exhausted, may have appeared to be going off to sleep. But, no! Almost directly the pitiful cries have been resumed until in desperation the doctor is summoned to find out what is the matter and to give relief.

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Now, it is a recognized rule in medicine that treatment should be based upon a correct diagnosis, and in such cases as these every effort should be made to find out the cause of the infant's pain. But it does not follow that one should make no attempt at treatment until one has completed one's diagnosis. On the contrary, pain itself is a symptom which demands speedy relief. If it is not relieved there is a danger of the child becoming exhausted and even suffering from convulsions. Moreover there can be no doubt that pain alone may cause death, and although the danger of such an event is doubtless remote, the fact that it has occurred is an indication of the magnitude of the nervous depression which pain may bring about. If, therefore, severe pain is allowed to continue unrelieved the infant's health vitality may suffer for a long time afterwards.

Nevertheless one should always try to ascertain the probable origin of the pain without delay, and for this purpose the history of the case is most important. One should ascertain, especially, whether the infant has ever appeared to be in pain before, and minute inquiries should be made as to the feeding of the child and the occurrence of dyspeptic symptoms—vomiting, constipation, diarrhœa, flatulence, abnormal appearance of the stools, etc. It very seldom happens that pain is the only symptom present. It may be the master symptom, beside which all others seem of such trivial importance that they are never mentioned unless expressly inquired for. But for the purpose of arriving at a diagnosis no symptoms are trivial, and it is no waste of time to procure a history of the case as full and accurate as possible. This involves finding out not only what symptoms have been present, but the order in which they have occurred. On this last point I would lay special stress. It is often of the greatest value in diagnosis. If an infant is suffering from pain and vomiting, for example, one should make out quite clearly whether the pain preceded the vomiting or the vomiting the pain. A definite history of the order in which the various symptoms have appeared will often be of the greatest assistance in forming an opinion as to the nature of the illness.

Pain in infancy, in the great majority of cases, is of abdominal origin. The pain is most frequently due to intestinal colic, associated with flatulence. There is seldom much difficulty in making a diagnosis. The expression of the child's face, the character of its cry, the attitude of the body, the movements of the limbs, all combine to form a clinical picture with which the practitioner soon becomes familiar. Moreover the child is usually being fed on cow's milk, which has not appeared to agree quite perfectly. Previous, but less severe, attacks of pain have occurred. Possibly the strength of the milk mixture has been increased recently. Constipation has probably been present. If the number of stools is normal, their character may be unsatisfactory. For example, they may be too scanty or too dry, and they may contain undigested curd.

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The immediate treatment of such a case is to put the child in a warm bath. It is surprising how soothing a warm bath is in infancy. If a handful or two of bran can be added to the warm water the soothing effect seems to be greater, but the hot water alone is essential. A short time ago I was called to see a strong, healthy-looking infant suffering from pain of this kind. I was assured that for twelve hours it had not ceased crying for five minutes at once. I had the child placed in a bath, and in a few minutes it went to sleep and slept (wrapped up in a warm blanket) for several hours. If the warm bath fails to give speedy relief a hot mustard pack will sometimes succeed.

The bowels ought to be cleared out as quickly as possible, and for this purpose a soap and water enema to which a little castor oil has been added should be administered. A dose of castor oil should also be given by the mouth.

The subsequent treatment obviously consists in carefully regulating the child's diet, and in seeing that the bowels are kept sufficiently open.

Acute ileo-colitis is also a cause of abdominal pain, but it is seldom on account of the pain that the physician is consulted. The other symptoms are quite sufficient to attract attention and to call for relief. Vomiting is not infrequently the first symptom in such cases, and diarrhœa associated with moderate fever is perhaps the most prominent derangement. Symptomatic treatment of the pain is rarely required. One trusts to relief being obtained from the measures prescribed for the diarrhœa and inflammation.

Pain is a more important symptom in connection with two other serious abdominal affections, namely, appendicitis and intussusception. The former of these is exceedingly rare in infancy. Holt has never seen a case in a child under nine months. The symptoms usually set in suddenly and pain and vomiting are the first symptoms. In older patients it is the rule for the pain to precede the vomiting, but whether this is the case when appendicitis occurs in infants I am unable to say. When appendicitis does occur in a young child, the constitutional symptoms are usually severe—more severe than in acute indigestion. Moderate fever is present. The abdominal wall is rigid and there is tenderness which may or may not be localized. For the relief of pain in these cases the best treatment is the application of an ice bag, but surgical advice should be sought whenever appendicitis is suspected, as the younger the patient the more urgent is likely to be the need for operative interference.

While appendicitis is rare in young children, intussusception seldom occurs except in infants. The infants attacked are usually quite healthy, and are frequently breast fed. The age of maximum frequency of the affection is five months. Pain is usually the first symptom. The pain comes on quite suddenly, and is very severe. Then occurs vomiting and rapid prostration. The abdomen is quite relaxed, so that palpation is easy.

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In many cases, but not in all, a tumor can be felt in the abdomen. Bimanual examination—with one finger in the rectum—sometimes helps the diagnosis. The treatment of these cases is surgical, and operation should be carried out with as little delay as possible.

Abdominal pain does not invariably have its seat in the alimentary canal. It is not uncommon for infants to suffer pain from hyperacidity of the urine. In very young infants uric acid crystals may be discovered in the urine. In older infants there may be no abnormal deposit, but the urine is extremely acid in reaction when it is passed. The pain may be severe, and it is often the only symptom present. The treatment consists in the administration of citrate of potash in frequent doses, until the urine becomes slightly alkaline in reaction. For this purpose five or ten grains may be given every hour or two until the desired effect is obtained.

In infants, as in older people, affections of the chest may be associated with pain, but perhaps the only remark called for in this connection is that the pain in such cases may be referred to the abdomen, in which there may appear to be quite definite tenderness. Errors in diagnosis may thus arise.

An important cause of pain which should not be overlooked is earache, and in cases of pain whose cause is doubtful, examination of the ears should never be neglected. If any congestion or bulging of the tympanic membrane is discovered, an aurist should be consulted, if possible, but if the inflammation has not proceeded too far, relief may often be obtained by installation of a solution of cocaine and carbolic acid into the ear. A useful prescription is as follows:

℞ Cocain Hydrochlor ..... 5 grains.
Acid Carbolic, Liq. ..... 5 minims.
Glycerini ..... 2 drams.

Sig.: Two or three drops to be dropped into the ear every two hours. In inserting the drops a small camel's hair brush will be found useful.

Earache is not necessarily attended by visible changes in the tympanum. In some instances the pain in the ear is dependent upon sore throat, and inspection of the throat should form part of the routine examination.

In cases of sore throat a good deal of pain may be present, but it is rarely on account of the pain that the physician is called in. Although the infant may be extremely fretful, there is seldom much actual crying, doubtless because crying would aggravate the pain. One of the symptoms most frequently noticed by the mother is that the infant refuses its milk. Whenever an infant refuses to feed, the mouth and throat should be carefully examined, and in a considerable proportion of cases sore throat will be discovered. Stomatitis is another common cause of refusal of food.

Pain in the mouth may also be associated with teething. In such cases there is frequently some gastric catarrh, which requires treatment.

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The tongue is furred, and there is local swelling and tenderness of the gum. I do not believe that lancing of the gums is often necessary, but I am sure that there are cases where the little operation gives immediate relief to pain.

Young infants appear to be remarkably free from two of the commonest pains of adult life, namely, headache and neuralgia. The principal form of headache is that which is associated with one of the gravest diseases of infancy, namely, meningitis. There the headache is obviously a minor incident in a fatal illness. After the operation of lumbar puncture the headache may diminish greatly in severity.

In speaking of these various pains of infancy I have said little about the use of drugs. It is indeed comparatively seldom that one has to make use of either anti-neuralgic remedies, such as antipyrin on the one hand, or of opiates on the other. The soothing effect of the warm bath is not confined to cases of flatulence and colic. A warm bath, with or without the addition of bran, is often more efficacious than drugs in inducing sleep. Antipyrin is useful for allaying spasm and soothing irritative nervous symptoms, but where pain is severe one may require, in the long run, to fall back on opium. When opium is really necessary, for example, to soothe the pain of a severe burn, one need not be afraid to give it even to the youngest infant, remembering always that it is necessary to use very small doses and to watch the effect. The doses are stated in the text-books in accordance with the age of the child. But in cases where an infant is much below the weight normal for its age, one should give a correspondingly smaller dose of opium or morphine.

SOME FUNDAMENTAL THINGS THAT MEDICAL SCIENCE DOES NOT YET KNOW.

By Thomas G. Atkinson, M. D., Chicago, Ill.

[Written for the Medical Brief.]

No sensible man has the least desire to belittle the wonderful advance made by science during the past half century in the detection, management and prevention of disease, or to discount the still more wonderful possibilities of future achievement held out by the record of this pregnant past. Still less is there any disposition in the minds of thoughtful men to call medical science to account for that which she has not yet accomplished, or to reproach her for that which she has not yet attained. And it is by no means the motive of this brief article to cast any of these disparagements at medicine, except that whatever is said here may very properly carry with it a tacit protest against the spirit of dogmatism and arrogance which increasingly prevails in some of her high places, and which is not only utterly unwarranted, but altogether preposterous, in

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face of the very meager and uncertain status of medical knowledge. It is rather with a view of setting forth in orderly fashion, so that they can be intelligently canvassed, some of the more important facts of medical science that have not yet been satisfactorily explored or elucidated,—of taking a calm and dispassionate inventory, so to speak, of the missing items in our stock of medical knowledge,—and of stimulating, if that may be, the investigation of these unexplored truths, the annexation of these missing articles, that this paper is written and offered to the medical public.

There are, of course, a boundless number and variety of truths in every department of medical science yet to be discovered, limited only by the range and duration of sickness itself. Of these there will be no attempt to speak here. What will be specifically referred to in this paper are those phases of medical knowledge (and only a few of them) which would reasonably appear to belong to the same class and the same stage of development as the rest of our knowledge, which stand in a natural and inherent relationship to known facts, and which are, finally, of a fundamental character; that is to say, whose elucidation is essential to an intelligent interpretation of all that we already know.

Most of this undiscovered territory lies within the realm of physiology; naturally, because if there were no hiatuses in our knowledge of physiology our present conception of disease would be connected and practically entire, for all pathology is in the beginning perverted physiology. Problems of morphological pathology and of preventive medicine belong to that aspect of medical science which still lies in the future, and which would not be rounded out even by a solution of current discrepancies. Furthermore, the region in which our essential present problems lie may, for the most part, be narrowed down to that of metabolism, and metabolism is, so far as present-day medical science is concerned, the ultimate discernible principle at the heart of the vital process.

First among these elucidations for which medical science waits—and concerning which it is perhaps the most surprising that it still remains unoffered—is that of the rationale of the febrile temperature, which has long been the subject of discussion among physiologists and pathologists, and which constitutes so vital a factor in many disease processes, but so far no adequate interpretation of the phenomenon has been forthcoming. To be sure, this ignorance of the philosophy of fever has not prevented the phenomenon itself being utilized as a secondary diagnostic factor in the interpretation of other diseased conditions, which have been found to constantly associate themselves with certain degrees of temperature elevation. But the profounder diagnosis of the fever process itself still remains an unknown quantity, and a solution of its rationale would unquestionably shed a flood of light upon what may be called the metabolism of disease.

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We simply do not know why and how the temperature is raised. We do not even know why and how the normal temperature of the human body is kept stationary at 98.4. I do not mean that we do not know the mechanism by which this stationary point, once determined, is maintained, and the excess disposed of; but we do not know why or how the stationary point of 98.4 is determined. I have searched all the available works on physiology, and not only have I failed to find an attempted solution of this question, but have never even found the question raised. And until we are enlightened on this point we can know nothing of the explanation of the higher level established under the influence of various disease processes, for, as Stewart says, the question of temperature is simply a question of levels.

Another problem which waits for solution is that of food metabolism in its profounder aspects. We trace the course of the food unit with reasonable accuracy of detail as far as the absorptive cells of the intestines —a little further, let us say, as far as the liver; at all events as far as the process is a breaking-up process. We gather up the residue again as it emerges from the kidney and make some rough calculations on the nitrogenous balance and other lumped quantities. But of the actual process of metabolism from the one point to the other we are in profound ignorance; there is a conspicuous and vital hiatus. And because of our ignorance of this great zone of physiologic activity there are many diseases, having their rise in a perversion of this unexplored metabolism, in whose presence medical science stands helpless and unavailing.

Still another phenomenon which has as yet received no satisfactory elucidation is that of unconsciousness, including the nature and modus operandi of sleep, which involves the whole question of hypnotics and anesthetics. To regard sleep as the net result of a train of somatic changes which sleep itself has brought about is an irrational and illogical confusion of thought. And when the proper significance of the element of consciousness in the equation of pain and disease shall have been satisfactorily worked out and explained, we may expect some important and rapid strides to be made in the interpretation and management of pathologic physiology.

Fourth (and last in this brief paper) of these unillumined questions may be cited the real value and function of the sympathetic or autonomic system of nerves. Here is a vast system of nerve-mechanism and nerve-dynamism, known to be the seat of organic vitality, *i. e.*, of the most elemental processes of life, holding the key to all of the phenomena, normal and pathologic, of the involuntary functions, especially of the visceral functions, which has yet been allowed to remain unexplored and unclassified to the present day. No anatomist or physiologist pays any but the most cursory attention to it; no neurologist takes any account of it. Only one man, so far as I am aware, has ever made any serious attempt

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to unravel it, namely, Byron Robinson, in his recent book on the Pelvic and Abdominal Brain. It still remains, from a profounder standpoint, an unexplored and unutilized province of human physiology. Who can doubt that in its complex rationale are bound up all the momentous problems of surgical shock and of visceral disturbances, to say nothing of general variations in organic vitality?

All of these important matters are as yet terra incognita, and all of them constitute essential links in our present chain of knowledge and hypothesis—for under present conditions there must needs be a certain element of hypothesis in our so-called knowledge—concerning man and his diseases. For a time it seems as though the objective features of medical science—the laboratory and the microscope—have turned the tide of investigation away from these profounder problems. Here is a field for the stimulus of a great medical organization like the American Medical Association, which spends so much on internal politics and next to nothing on the promotion of real, helpful scientific work. It would be a far worthier channel for its money and its activities than fiddling over ethics and proprietary preparations.

THE TREATMENT OF AMENORRHEA.

By John Albert Burnett, Barber, Ark.

[Written for the Medical Brief.]

There is no doubt in my mind but what potassium permanganate is one of the very best remedies in the treatment of amenorrhea and the most certain emmenagogue we have. It has a specific action on the uterine tissue. Most physicians give one to two grains thrice daily in capsules with powdered elm or licorice. It is claimed that in pills it may explode. I have used it in tablet form with safety so far. In my opinion the dose at first should not be over one grain, and in most cases I think it best to use less than a grain at first, and increase the dose or frequency as needed. When there is much pain, one or two grains of powdered extract of hyoscyamus can be added to each dose of potassium permanganate. Hyoscyamus is one of the best remedies we have to relieve the pains of amenorrhea or dysmenorrhea.

Potassium permanganate is not a remedy to be continued very long; as soon as the flow is started sufficiently, it should be discontinued or used only often enough to keep the flow from stopping, if there is such a tendency. The best way to use it is to begin one to three days before the menstrual period is due.

The following compound is especially recommended, not only for young women who leave the country to attend school in the city and

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have amenorrhea, but also for many other cases, especially where there is debility or constipation:

℞	Potassium permanganate	1 grain.
	Iron sulphate	1½ grains.
	Quinine sulphate	1½ grains.
	Aloin	1/10 grain.

This is one dose to be given in capsule three times a day, beginning about three days before the flow is due and continuing until the flow is free enough, and then often enough to keep it about right, if needed. This can be repeated each month just before the flow is due for three or four months, if necessary.

Damiana was at one time considered a powerful remedy for impotency, but has proved to be somewhat disappointing. It has proved to be of value in menstrual disorders, especially in young girls at the time of the establishment of the function. It has a somewhat favorable influence in amenorrhea as well as dysmenorrhea by improving the general condition of the central nervous system. Damiana can be combined with saw palmetto with good results, especially if there is any underdevelopment of the sexual organs in young girls at the age of puberty. Saw palmetto is of value in establishing a free circulation in the sexual organs of both sexes. Intra-uterine medication as taught by Dr. C. Woodward, of Chicago, is of much value, but will likely not become very popular in country practice on account of having to be done by the physician, and women not wishing to submit to treatment as often as it should be done. However, in some cases where there is no objections to the treatment, it is of especial value with married women. Electro-therapeutics is of great value when properly used. Animal therapy, such as ovarian and thyroid preparations, has proved to be of value in amenorrhea and other menstrual disorders.

POISONOUS VEGETABLES.

The same bacterial substances may result in the presence of infected vegetables as in the case of the animal foods. The richer vegetables are in nitrogenous matter, the more likely is there to be a bacterial poison production, and, on the other hand, the more carbohydrates and sugar there is present in vegetables, the less likely is there to be such a contamination.

Again, poisoning may result in the case of canned vegetables from metallic substances, as when vegetables are tinned in lead, zinc or tin-bearing receptacles. This is due to the acidity of the contents, which causes a solution of the metallic constituents of the container.

Another form of vegetable-poisoning is due to the ingestion of plants that are in themselves poisonous, such as mushrooms, ergot, vetch, etc.

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RECIPROCITY BETWEEN THE STATE LICENSING BOARDS.

By Leslie Martin, M. D., Baldwinsville, New York.

[Written for the Medical Brief.]

All the schools of medicine are founded on the same basis, namely, the study of anatomy, physiology and surgery.

These leading branches can only be taught in conformity with the structures and organs of the human body. Consequently the lectures on these branches must be practically the same, no matter with reference to the name of the school.

None of us ever knew that God created a man specially or individualized him for the allopathic, homœopathic or eclectic, or with separate functions or organs, or be subject to diseases, applicable for each separate school and required different methods of study and treatment. All diseases are the same in the United States, and present the same symptoms and types. Every remedy used is the same in all schools, only the methods of application vary when applied to the treatment of the disease, and each physician makes his application of the remedy to conform to his judgment.

All branches except therapeutics are taught the same in all schools, and the same remedy is used in the same disease treated, only in its method of application of each school. Years of study and requirements are nearly the same, while each school is legalized and protected by the statute laws of the State in which it is located. Fractures and dislocations are treated in the same way in all schools, while diagnosis is also identical. It is better for the public that there are different schools of practice for the sick to choose from, as we could not force them to employ only one school of practice, no more than we can compel the people to have one church and one form of worship. The only and sole aim of all schools is to aid and promote the recovery of the sick. We have too much red tape, politics and jealousy at the present day, and it is a hindrance and clog to the profession, and they should annihilate it and then apply their time to the study of advancing the good of the sick and suffering. Do away with ostracism, and grant all schools equal rights recognized by the statute laws of each State, where located, and give them all a square deal.

Reciprocity should exist between all the States of the Union, of the three schools that use medicines in treating the sick, and if a physician from the Eastern States desires to locate in one of the Western States, or *vice versa,* all that should be required is to present to the county clerk of the county where he locates his diploma and license from his former State to establish his qualifications to practice his profession, and not compel him, as the medical boards do now, to pay the fee of $25.00 to be admitted to the board and have to pass a severe course of examinations as to his qualifications, when his diploma and license should admit him to practice.

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How many of you physicians would oppose strenuously this course, if, after having been engaged in active practice for ten, twenty or thirty years, you would find yourself obliged for health's sake to locate in one of the Western States, when you have your well-earned diploma and yet forced to go before the board and pass a rigid examination to obtain a license to practice? I think very few of you could pass such examinations. Would you not be quite rusty? And yet the board would not let us practice, when we have been many years among the most successful physicians, and thoroughly competent to treat all forms of disease intelligently. Do you think that such physician would not know how to treat a case of typhoid fever in Illinois as well as he would in New York State, or would have to reduce a fracture or dislocation differently than what he had done for years and years? This law would be just as equitable and just to apply it strictly to the clerical and legal professions. All churches use the same Bible, only a different application in some denominations.

Our Protestant churches have begun a good work of federation in the United States, and commune with each other. (Let us follow their example.) The profession of dentistry has begun the good work of reciprocity, also. The State of New York has begun a good work by having one licensing board. Now let us be altruistic and let the good work go on, and have reciprocity of the three schools of medicine. The great hindrance to reciprocity in the past years has been the fact that the members of the medical profession have been envious and jealous of each other in general. The reason is very obvious, because the practice of medicine is an art and can never become a science. We have good laws in regard to foreign physicians who wish to engage in practice in the United States to protect us from imposters and the unqualified. Should such a condition be tolerated in the three schools, when our laws are so lax as to permit such a large number of so-called physicians in towns and cities, who advertise so extensively their vaunted cures and practice on the credulity of the people? Should so many druggists be permitted to prescribe for the sick?

Let the three schools awake to their full duty to the sick and suffering, and cause a great reform in the medical profession, to overcome this class who are prescribing and treating the sick, and causing untold suffering and rendering curable cases incurable.

Schools should retain their distinctive names for the public to choose from, just as our churches do. Names of schools have no bearing on the use of remedies for the treatment of the sick. There is no law to prevent any physician from using in either school mental, physical or medicinal means or methods to benefit the sick and suffering.

The Hague conference has begun a good work of arbitration between nations who recognize each other and live in peace and harmony. Let the three schools of medicine follow their example, and unite to work in

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harmony for the promotion of the welfare of their fellow beings in this present age of activity and constant change of location of the general public and physicians. This is the true spirit of altruism in the medical profession. Why does one State refuse to recognize a license granted by another, perhaps an adjoining State? In view of all of these positive facts let all duly licensed physicians be filled with a full spirit of true altruism.

What is your answer, my brethren?

We have at present quite a number of States who now so believe and have entered into this compact of reciprocity.

I copy in full the reports from the States of Texas and Wisconsin concerning reciprocity.

Texas, from an editorial in the *Recorder,* says: "The Lone Star State is becoming a rival of Kansas for freak legislation. Their examining board is now composed of five allopaths, one osteopath and one physiomedicist and two homœopaths. Inasmuch as the five teams are pulling in opposite directions, the examination must be a screaming farce.

"If such a board were to be abolished and one established to subject each doctor's diploma to a verification, throwing out all from freak colleges, there would be some protection to the public. However, this examination business is in an embryonic state, and it is to be hoped that if it must be continued that the day will come when once a man has passed his college and board examinations he will be permitted to practice in any part of the United States."

Wisconsin says: "Old doctors not in it," and is having apparently a nauseous dose of "examining board" tyranny, as witness the following from the *Wisconsin Medical Recorder:*

"The maneuvers of our professional board of health have succeeded in getting the law changed, so that all physicians who graduated over ten years ago are handicapped in changing their location. They must take an examination, and upon subjects that were not taught when they were in college. They must pass an examination in anatomy and chemistry, in competition with the recent graduate. They are expected to give the points of interest upon the petrous portion of the temporal bone or a plan of the brachial plexus; of course, all of my readers can do it off-hand (perhaps), as they have found it the most useful information that was taught them in college, and without this knowledge presumably they would not have been able to practice medicine successfully (?); but these questions are a fair sample of the rot that makes the doctor under the law. This law ought to be amended for the protection of the public. If Dr. Pills, for many years practicing in Swampville, is not a fit man to practice in Crosswoods without an examination, why should the people of the first-named place, where he has successfully practiced for many years, be denied the beneficent protection?"

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I am a graduate of the Albany Medical College of the class 1864, and for several years have been carefully observing the three recognized schools of medicine, and I now claim that in view of all of the existing facts that there should be full reciprocity of these three schools—work in harmony. We can thus better serve the general public good, and we can show to our fellow beings a genuine spirit of altruism.

NON-SURGICAL TREATMENT OF APPENDICITIS.

By D. W. Reed, M. D., Greeley, Colo.

[Written for the Medical Brief.]

The writer fully agrees with the majority of the men in the medical profession that appendicitis is peculiarly a surgical disease, and that many valuable lives are lost by postponing surgical measures until it is too late to save the patient. This delay is usually due to a refusal on the part of the patient or his friends to submit to a surgical operation. In fact, I believe that much of the opprobrium attached to surgery in appendicitis is due to the fact that the consent of the patient can not be obtained until all chance of recovery is passed.

Many patients absolutely refuse to submit to surgery, preferring to take their chances of recovery without it than to assume the risk of the operation. This article is intended for the benefit of this class. Note that appendicitis often follows excesses in eating and drinking, which excesses produce a catarrhal and relaxed condition of the mucosa, resulting in a patulous condition of the lumen of the appendix. Fecal accumulation interferes with the circulation, inflammation begins. Now, if this inflammation can be arrested before pus is formed or death of tissue, resolution *may* result, and the life be prolonged.

Having a case of acute appendicitis, then, how shall we proceed to arrest the inflammation? First, we should equalize the circulation. There is too much blood in the region of the cæcum and appendix. This congestion can be relieved by putting the patient in a hot-blanket pack, which will dilate superficial blood vessels. While the patient is in the pack an ice bag, containing crushed ice, should be applied over the tumor of inflammation. The pack may be repeated twice daily, if necessary, and the ice bag should be removed for ten or fifteen minutes every three hours, and, instead of the ice-bag, hot fomentations should be applied, as hot as can be borne; then the ice-bag replaced. This procedure not only relieves the inflammation, but also the pain, to a large extent. If necessary, a hypodermic injection of morphine and atropine may be given to relieve the pain and relax the patient.

However, we should avoid an excess of opium, lest the real condition of the patient may be obscured.

I have employed the above treatment for several years in this class of patients with quite a large percentage of recoveries.

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MAGNETIC RADIATION—A THERAPEUTIC AGENCY.

By Samuel G. Tracy, B. Sc., M. D., New York City.

[Written for the Medical Brief.]

For over a year I have devoted considerable attention to the therapeutic effects obtained from magnetism, magnetic radiation, and the influence of the magnetic field. During this short time many remedial results have been obtained, and I feel that it would prove worth while for every physician to investigate for himself some of the claims which I make for magnetic radiation.

A partial conception of the possibilities of the magnetic wave on the different forms of life, in health and in disease, may be shown by the multitude of its cellular influences on living matter, in some cases creating new cells, and in others modifying many of the functions of organic life.

As rational physicians, we should neither scoff at nor reject all the claims pertaining to this remedial and curative energy. The mere fact that the modus operandi can not be objectively demonstrated is not a valid argument against its therapeutic value. If it were required of us as physicians to prove the method by which many remedial agencies accomplished their physiological and therapeutic action, we would have but few means left by which to practice our profession.

History—The word magnet is from the Greek, and this name is given to the lodestone or native magnet, which is an iron ore found in various parts of the earth. This magnetic ore has the remarkable power of giving its properties to iron or steel when these bodies are rubbed by it. However, the lodestone is not robbed of its own properties, although imparting them to another.

Magnetism would be of little service if we only could obtain it from the natural lodestone. As far back as the sixteenth century it was found that magnetism could be obtained in the following manner: Bend a copper wire into a spiral, and wind it around a glass tube, and in this tube place an iron or steel rod. Now when a charge of electricity is passed through the wire, the iron or steel rod is found to have acquired certain properties. In other words, the metal rod has become magnetized. This old electrical experiment was the starting point of all modern methods of producing electro-magnetism. Of recent years magnetism has been used in the arts, and commercially with great success, but not so with the medical application of it. Outside of a few sporadic attempts during the past 150 years, no material progress* has been made in this field until about three years ago. At this time Emile Bachelet invented a magnetic generator which would radiate a powerful magnetic field, and its coil will not get hot and burn out.

*Except the experiments of Dr. Wm. Herdman.

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These magnetic generators consist of a simple contrivance for producing a magnetic field. Each generator consists of a flat wide annular coil of wire resembling very much the segment of a Rhumkorff's coil. The apparatus is really a double generator, composed of two electro-magnets in series and some distance apart (one to three feet). When they act together they create a powerful magnetic field, having a center or core of great intensity between the poles. The north pole of one magnet must be opposite to the south pole of the other, and the patient is placed between them without coming in contact with the generators. As a supply for the magnetic generators the alternating current is the best one to excite it. However, the constant or direct current may be used, but in this case it is necessary to place an interrupter in the circuit.

A few tests made with this apparatus will demonstrate the magnetic phenomena. Connect the generators with some source of electricity, preferably the alternating current, and bring the magnetic detector into the field. If the detector has a telephone receiver attached to it, the magnetic vibrations may be instantly perceived by the ear. In fact, the magnet may be on one side of a brick wall and the detector on the other, and the vibrations are just as easily heard through the telephone. If we wish to demonstrate to the eye that magnetic waves are present, to the magnetic detector attach a galvanometer or milliampere meter. Place the detector in the field, which ordinarily surrounds the magnet for several feet, and the needle will be deflected and vibrate vigorously. Another test is to attach a small electric light bulb to the detector and place the detector near the magnet. By induction the magnetism is changed into electricity, and the lamp is lighted without wires, the air acting as a conductor.

Theoretically it is believed that the human body is the recipient of a certain amount of natural magnetism, obtained from natural sources, namely, the radiations from the sun and from the oxygen of the air. These natural magnetic currents become transformed in the human economy, and set up electrical currents, which have to do with all our vital processes. Some of the magnetism is used immediately in the body, and the rest is stored up. This is used up and dissipated only when functional activity takes place. When from any reason our natural magnetism becomes depleted, we are placed in a physical condition to take on disease, and our resisting powers are at their lowest. Now if the normal magnetic equilibrium of the body can be re-established, by natural or artificial means, we are in a condition to take on health; Nature is assisted to do her work, and the resisting powers of the body are greatly enhanced. The re-establishment of the magnetic equilibrium may be brought about by exposing the patient in the magnetic field for a certain length of time. By thus placing the patient between the two generators he will be traversed by millions of magnetic lines of force. These waves will flow gently and rhythmically in the blood, and every cell of the body becomes more or less

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magnetized. This magnetic action in turn produces electric currents, which are supplied for every functional activity. Thus the human body may be said to contain storage batteries of energy to supply motive power for all the muscles, and energy for the activity of all the organs.

The brain is the principal power house. When it is desired to move the arm, the will discharges the storage battery in the brain, to give motive power for the muscles needed. Hence bodily magnetism, or an induced electric current, flashes along the nerves down to the muscles, where the work is necessary to be accomplished. In the medulla are situated little storage batteries which supply the involuntary muscles, and the glandular organs of secretion and excretion.

In the spinal cords are nerve centers, which act as substations, and draw their supply from the main station, *i. e.*, the brain.

When insufficient energy is supplied to the storage batteries, the various functions over which they preside become impaired, and a diseased state is likely to supervene, unless the natural electro-magnetic energy is restored.

EFFECT OF MAGNETIC RADIATION ON THE BODY.

It is conceded by many thoughtful physicians that the human body is virtually an electro-magnetic and an electro-chemical machine, and all the vital processes are magnetic, electric or chemical.

Atkins says that the human body is electro-chemical in its action, and governed by electrical laws. It contains many electric currents, the nerves are the conductors and the blood the exciting fluid. When the functional activity of the body is below par, and diseased conditions ensue, part of the magnetic and electrical energy is dissipated, and the normal physiological functions are not properly performed. The circulation of the blood becomes impaired, congestion of various organs take place, and the quality of the blood deteriorates.

To remedy these conditions and restore the magnetic equilibrium of the body, the patient should be placed between two magnetic generators. He is now in a magnetic field and penetrated by myriads of magnetic waves. When the patient is placed in a harmonious magnetic field, where the positive and negative are equally distributed, the molecular current in the blood corpuscle is set in motion, and thus increases the attraction and repulsion of each cell.

One writer on this subject claims that when the iron of the blood is but slightly magnetized the blood cells occupy a higgledy-piggledy position, showing a lack of uniformity, the blood-flow is not so active and there is a tendency toward congestion. However, when the blood cells are normally magnetized, the molecular currents take a parallel direction and this

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condition is conducive to a healthy functional activity, the chemical action is accentuated, metabolism stimulated, blood circulation equalized and the waste materials of the system better eliminated.

When the magnetic fluid is passing through the patient, his electrical potential is raised and some of the imparted magnetism is stored in his system, but gradually disappears as the result of organic action. The magnetic equilibrium may now be restored by natural or by artificial means. In addition to the physiological action already enumerated, magnetic radiation acts as a sedative tonic or stimulant, depending upon the length of the application, the strength of the magnetic wave, and the number of magnetic impulses. The time of necessary exposure to magnetic radiation may be from half an hour to several hours. This depends upon the condition of the patient and the disease for which he is treated. The magnetic application may be administered either to the patient sitting in a comfortable position, with a magnetic generator on either side of him, or he may receive the magnetic lines of force while reclining on a couch or resting in bed.

Dr. Herdman, formerly of the University of Michigan, found that when children (five to ten years of age) were exposed to prolonged applications in the magnetic field, that their growth and development would increase 20%. He also found increased physical development in adults. While exposure to the magnetic field stimulates growth in the young, it has, like high-frequency electric currents, a tendency to arrest senile decay. This is accomplished by promoting increased metabolism, functional activity, also by restoring elasticity in the arteries in beginning arteriosclerosis.

Thus we have in magnetic radiation a potent therapeutic agency in nervous and chronic diseases. It is certainly worth a trial in neurasthenia, hysteria, hypochondria, insomnia, and some forms of incipient insanity, including melancholia. In addition to these ailments, magnetism will be found of value in many functional disturbances, particularly of the stomach, intestines, liver and kidney. As an eliminative agency it is of considerable service in rheumatism, gout and uric acid toxemia. While I think well of magnetic radiation in the diseases enumerated, I do not use it to the exclusion of other therapeutic agencies. As a rational physician, I believe each case is a study for itself. When advice in regard to diet and hygiene is indicated it is given. If drug treatment is advisable with or without magnetic radiation, I prescribe it. However, the longer I practice medicine the more I am convinced we should get along with the minimum amount of drugging. It is not unlikely that the really important drugs could be enumerated on the fingers of one hand.

240 West 102d Street.

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THREE INTERESTING CASES TREATED WITH HIGH-FREQUENCY CURRENT.

By William L. Ross, M. D., Omaha, Nebraska.
Professor of Dental Neurology in Creighton University Dental College.

[Written for the Medical Brief.]

Carcinoma—G. W. T., married woman, aged forty-seven, presented herself for treatment on November 5th, complaining of very severe sore throat. Her family history was good, and her health, with the exception of periodic attacks of rheumatism, was excellent.

Examination revealed an inflamed and ulcerated condition of throat. The soft palate was partly eaten away, the arch badly inflamed and ulcerating. Pillars of throat much enlarged and inflamed. Epiglottis enlarged by cancerous ulcerations. A clipping from the soft palate was submitted to pathologists for examination and was pronounced carcinoma. The patient was referred to Dr. Owen for further examination. Dr. O. made a second clipping, which was examined and pronounced carcinoma, and operation was refused. On November 15th, treatment by the X-ray and high-frequency current was commenced, being used on alternate days, with marked improvement from the beginning. At the present time, March 1st, the patient is greatly improved. On February 20th the patient was sent to Dr. Owen for re-examination, and was pronounced by him to be almost entirely well. The soft palate, which was partly eaten away when the patient was first seen, was completely destroyed before the disease was checked. There is now no evidence of cancerous inflammation around the site of the soft palate and arch.

Gangrene—J. T. C., aged fifty, an attorney by occupation, sustained a bruise on the outer side of left foot, by a large swinging door, which struck the foot with considerable force. The pain was unusually severe from the start for an injury of this character; pain, swelling and inflammation increased. Hot fomentations, with lead and opium, were persistently used for one week, with absolute rest, without any noticeable improvement. At the end of the first week following injury, the tissue over site of severest pain showed a livid condition and soon grew darker in color. Hot sensations were present in different parts of the foot, which caused great discomfort, and made sleep impossible. Bathing foot in salt water for half an hour three times a day and hot fomentations gave no relief. Gangrenous spots to the number of twelve appeared on the foot. At this time the high-frequency current treatment was instituted, five minutes at each sitting for the first six treatments. The time of treatment was then extended to ten minutes. At the end of twelve treatments the pain was greatly lessened, the hot sensations disappeared, the smaller spots of gangrenous tissue are rapidly disappearing and the larger spots are showing great improvement.

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Appendicitis—Miss, aged seventeen, student. First seen by me on February 5th. Complained of great tenderness in region of vermiform appendix with history of severe attacks of pain and tenderness occurring at shorter intervals for the last six months. Pain of recent attacks severe enough to compel the patient to remain in bed from twenty-four to thirty-six hours.

Examination revealed marked tenderness over McBurney's point. Patient was put upon saline cathartics, diet regulated, etc. High-frequency treatment commenced February 12th, repeated every other day. Attacks occurring since are less severe and shorter in duration. Tenderness less marked over McBurney's point.

The success obtained in the above cases seems to indicate that there is a new field for the high-frequency current. It is my belief that the good effects of this treatment are due largely to the tonicity brought about by the high-frequency current. This current seems to pick up the link between the X-ray in the cure of cancerous conditions. While the X-ray kills the cancerous tissue it has the same effect upon the normal tissue, and if the treatment is not combined with the high frequency the normal tissue is bound to suffer. If the high-frequency current is alternated with the X-ray the normal tissue is so stimulated as to rapidly take the place of the diseased tissue.

2121 Lake Street.

THE COUNTRY DOCTOR.

By John Collins, M. D., Quincy, Ark.

[Written for the Medical Brief.]

The busy country practitioner is an exception among the great philanthropists, heroes and benefactors of humanity in that while such men seldom reap a great crop of flowers in the way of highly-scented eulogies and brilliant encomiums until after they have been buried, the overworked M. D. has all the cheap blossoms stuck up to his nose at every turn. After he can not be used through sun and storm and night any longer, few flowers are cast his way.

Where in all the fields of human endeavor is more true heroism—more unadulterated charity and philanthropy—exhibited than is over and over manifested in the arduous, strenuous work of the ordinary country doctor, persistently denying himself needed rest, busy still when every muscle is exhausted and every nerve crying for rest, spurring up and using the last remnants of latent force rarely ever called out in any other vocation or predicament, and this repeated and re-repeated ere Nature has regained one-half her normal forces? Added to these recurrent abuses of his life come exposures to cold and storm, unusual to any other vocation; and how much of it goes unnoticed by the public and unrecompensed by the

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beneficiaries? Charitable work is considered by all as his proper function in a large measure, nor can can he evade much that appeals to him thus.

"The busiest man, the hardest worked.
The most rushed-up and shoved and jerked,
Demanded of and cussed the most,
Pulled and cuffed from pillar to post,
Busy by night as well as by day,
Rustled and hustled in every way—
If such a mortal you would see,
Hunt up a real good country M. D."

Few physicians steer clear of branching off into other business, trying to multiply whatever of competency they may have acquired by launching into merchandising, manufacturing or some other field of speculation. Not 10% of such ventures succeed on the part of the doctor, while a very large per cent prove disastrous. Continued attention to practice, with even a small constant accumulating surplus, invested safely, though at small interest returns, is decidedly the course, for linked with certainty of reasonable competency may be exceptional success in treating diseases and a reputation more enviable than accumulated wealth.

LAGGING BEHIND.

By B. B. Ussher, M. D., Dedham, Mass.

[Written for the Medical Brief.]

Everywhere amongst civilized people there are evidences of centralization in opposition to a diffusive policy. In England, Canada and the United States the sectarianists are coming together, and the great waste of power and money is being looked into for economical reasons, but underlying all this is the spur of religion. Where the war of sects has been always manifest, there is a wide and growing spirit of catholicity, a tendency to unify, until one dreams of a day coming when the Buddhist, Mahommedan, Confucianist, Shintoist, and other great religious bodies, will drop out the things that separate and centralize on those that unite, and we shall all see that the healing power spiritually centralizes in a God of love, and the outcome of that conviction will be a firm belief in the fatherhood of God as evidenced by the providential plans and their outcome, evincing a great central creative mind, and on the earth plans a belief in the brotherhood of man, as shown forth in the life and self-sacrificing death of Jesus of Nazareth.

Will it have to be said that the medical profession, supposed to be the most progressive, advanced and broad-minded, is lagging away behind the churches, and manifesting a narrower spirit than even the churches did in the last fifty years? As a great profession, we are disgraced by the laws that our brethren, in the different States, have enacted in a spirit of selfishness that is deplorable. Either a man is a physician or he is not.

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What should determine his status? Why, simply the fact that he holds his diploma as a doctor of medicine from a reputable medical college, whose curriculum is such as to be evidence that he has pursued his study of the necessary courses under competent instructors, and by his college is vouched for as one capable of practicing his profession for the relief of human suffering. Instead of this broad and reasonable catholicity, what do we find? Why, State protective associations of doctors, who, not willing to stand upon their own professional merits, secure legislation that prevents their brother physician from practicing in their State, although human life and comfort may be at stake.

As an illustration: I know a physician, a man of standing and fine professional qualifications, a man who has been markedly successful, and a graduate of a leading medical college. He is practicing in the District of Columbia, and is consulted by prominent people all over the country who desire his services as a specialist. This same gentleman could not go into Alexandria, Va., just across the line, and attend a case without being a law-breaker, and subject to a fine under the laws his brother physicians have engineered through the State Legislature, and this illustration fits every State in the Union where this disgraceful discrimination prevails. It may be said that it is a State measure to shield the profession from quackery, but the protection against that is found in the diploma of the reputable, recognized college. It may be said that men get through the colleges who are not fit to practice, but many an honor man, famed amongst his fellows for his long memory and ability to answer according to the books, has been a dead failure as a physician at the bedside of his patient, and has found himself supplanted by a doctor who did not know so much of what other men thought, but was gifted with more common sense and discrimination. It will be said the State boards are the safeguard of the public, but that is not the case, for in practice many men who have passed the State board examination are obliged to abandon the profession, and take to some other means of living because they are failures as doctors. The public is discriminative.

How many amongst the old physicians, the reputable men of years of experience and success, are sufficiently well up to stand an examination in chemistry and bacteriology, those over-rated factors of medical science that are every day, particularly in the latter field, shrinking in importance and reliability? Test tubes may give nice chemical results, but when the life principle is introduced, theory explodes and the fact of failure in expected result remains. The microbe theory, which has run mad, is losing favor, and much that is banked upon now by mere speculative enthusiasts will be forgotten, but in the great verities of the treatment of disease experience and good judgment tells, and when the medical men of the United States get enough catholic common sense and overcome the spirit of greed, then there will be a forward movement that will mean a national

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recognition of the qualified college-indorsed graduate from Maine to California.

A FATAL CASE OF COCAINE POISONING.

By C. D. R. Kirk, M. D., Shuqualak, Miss.

[Written for the Medical Brief.]

Dr. J. D. Kellis, of this place, called the writer in consultation to see Mrs. B., a lady about forty-eight years of age, who had some teeth extracted by a dentist who used about fifteen drops of an 8% solution cocaine. I do not know how many times the dose of fifteen drops had been used, but I suppose it was that quantity for each tooth extracted, and four or five teeth were extracted. Dr. K. arrived soon after the family became alarmed, and at once realized the gravity of the case and gave, hypodermically, a tablet of strychnine and one of atropia, which were exhibiting some of their constitutional effects when I arrived. About one hour after symptoms of cocaine poisoning were noticed. I noted the following condition:

There were dilated pupils, the tongue partly protruded, the eyes were closed and all symptoms of the head resembled very much a deep narcosis by chloroform. There was no reflex of the eyes and all the functions of the brain were suspended. The pulse was full and strong, and only a little more rapid than normal. The respirations were about twenty-six, full and easy. The patient's position was changed by rolling and lifting her from side to side of the bed without any sign of disturbance. Dr. K. stated that after he called she vomited freely, the vomitus containing some free blood which had been swallowed after the cocaine had begun affecting the brain. As the pulse remained full and strong and respiration only a little accelerated and the atropia caused a flush of the face, we did not repeat the remedies, and only added a mustard plaster to the occiput. About the time, however, we were expecting to repeat the strychnine, there was a sudden change, which was announced by a weak, rapid pulse, stertorous breathing, and death followed in a few minutes, the paralysis having reached the pneumogastric nerve.

The writer had extracted four or five teeth for her several years ago, using a local anesthetic which contained only a very small per cent of cocaine, and the dentist had on a previous occasion extracted several and operated while she was under the influence of the same formula and dose that he had used on that occasion, without any bad results.

It seems that, owing to some condition, the nature and existence of which no one could surmise at this time, the patient was rendered extremely sensitive to cocaine and was fatally poisoned by it. The operating dentist should not be held accountable for this unfortunate ending,

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in view of the fact that the patient had previously, under cocaine anesthesia, shown no special predisposition for its ill-effects.

THE DOCTOR.

By J. A. Houser, M. D., Indianapolis, Ind.

[Written for the Medical Brief.]

The responsibility of the doctor is so different from that of any other person that it is not easy to make a comparison. All other callings permit special hours for rest and work. The doctor is always on duty. No day so fine nor night so stormy that permits him to rest or shirk. Be he ever so weary, at the call of duty and disease he must take his place to do battle with death and stay the destroyer yet awhile. Others may seek and choose their task; the doctor must take what comes and give his best service, though no recompense beyond the thanks of the helpless is his reward. Though the doctor's learning must be of the highest standard of any professional man, and more difficult to obtain, his labors take him alike to palace and hovel, where his duties are always the same in importance and gravity, and often upon his decision the scale turns to life or death. In his duties he must render the same service to prince and pauper alike, and he feels not less proud to restore the tramp than the millionaire to health. Each to him is a suffering human being, God's creature, and he an humble servant of the Most High.

The doctor was there at your birth when you were ruthlessly cast upon the bosom of Nature, like a helpless shrimp tossed among the seaweed by an ocean storm. He heard your first wail of agony and soothed your first pain. All through life he holds your hand, guards your steps and cheers your sad hours. He hears your secrets and shields you from calumny. The highest court on earth can not open his lips to betray your trust.

When "the pale horse and his rider, Death," comes and stills forever your throbbing heart, the doctor is there to comfort and solace to the last. His touch is the last you feel, his voice the last you hear, his face the last you see before reason fails, memory fades, eyes dim, and all the world swoons, and you pass to the unconscious sleep. He turns away, like a noble knight defeated again by the "King of Terrors," goes to battle again just as bravely for another smitten by the plague. Though he could beat back no more the relentless reaper he comforts his own heart with the conscious belief that he had done his best.

The doctor is a king among men. No prison can lock him out, no castle defy him, no court unseal his lips. He can stop a ship in mid-ocean when suffering or danger demands it. He can hold the world's rulers in quarantine until he says they may come ashore. If he raise

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the yellow flag, men flee and leave a city to be a desert, and fall on humble knees when he holds aloft the Red Cross. Though the nobility of his life and his fidelity to his kind opens the hearts of all, and his learning gives him the highest seat in the temples of wisdom, his wealth is not in gold nor his treasures in riches that smaller men would seek. His dower is to know, to help, and to heal.

Though he prolongs the lives of others, the doctor dies soonest himself. He is shortest-lived of all professional men. His great care and responsibility are often too heavy for his physique. In the field of medicine is found the highest per cent of insanity, and suicides are more frequent in the doctor's office than among the same number of any other class.

The doctor's religion is usually an agnostic, sanctified, creedless, humanitarian devotion to suffering humanity. Though his name is generally on the church books, his soul is too wide for any narrow bonds; he is the cosmopolitan evangel who has a tongue to soothe the misery of every race and a balm for all conditions of men.

Unitarian and Trinitarian, Armenian and Calvinist, Catholic and Jew, are all the same to the doctor. They are bits of animated clay which have taken their impression from some other clay which are in turn moulded by some preceding clay, but all follow the same light as they see it, and all, finally, reach the same rest.

To the doctor all life comes from God and returns to God, and no man is keeper of the gates, nor guards the portals of "The City Not Made With Hands."

The doctor works out his own destiny with patience, making the lives of others less painful while they pass onward to the catastrophe which appalls reason, shocks sensibility and defies explanation; the usher to the charnel house who leads the unwilling guest to the phantasmagoria of horrors where life is lost in the unexplored beyond. To this end and his death he journeys with his kind, and yields at last to the foe he battles with so long.

The doctor sees humanity at its best and worst, without its mask and shield. He aids it in its noblest efforts and pities it in its grief. He is nearer its troubled heart than any, excepting only the "Man of Galilee." He hears confessions which never fall upon the ear of minister nor priest, and which will not be heard again until given to the Infinite and the Eternal.

When life's journey is done and the end of all on earth has come, and each awaits his reward from the unerring Judge, none more worthy, none more noble, will be found than he who relieved the pain of frail flesh and quieted the fears of weak humanity.

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CURRENT MEDICAL LITERATURE.

Cervical Tumors Simulating Enlarged Glands Associated with Laryngeal Paralysis.

Andrew Wylie (*British Medical Journal,* September 26, 1908) has clinical and pathological reports of thirty-three cases of cervical growths which simulate enlarged glands. Most of them proved to be endotheliomata, but some were dermoid cysts and lymphadenomatous glands; two were composed of thyroid tissue; there was also a lipoma, a gumma and an epithelioma. All the endotheliomata were deeply seated and intimately blended with the deep cervical fascia and the carotid sheath. One of them almost completely embraced the jugular vein, eventually piercing it and involving the Gasserian ganglion. Another involved the superior thyroid artery close to its origin; it was sharply encapsulated and was removed entire, with excellent results.

He reports two cases in details, showing the likelihood of confusing these growths with enlarged glands. The first case was a firm but mobile swelling one inch by three, situated in the anterior triangle and extending beneath the sterno-mastoid at the level of the thyroid cartilage. It exerted pressure upon the left cord by limiting the abductor movements, as seen with the laryngoscope. It was diagnosed as an enlarged gland causing pressure upon the recurrent laryngeal nerve, and its removal was advised. On account of its becoming more painful, it was removed two months later. It was found to be attached to the carotid sheath and was infiltrating the cervical fascia. Microscopic study showed it to be an endothelioma, and not an enlarged lymphatic gland. After its removal a distinct improvement in the activity of the vocal cords occurred. The case illustrated the difficulty of distinguishing between a real new growth and an enlarged gland in this situation.

Another case reported in detail was a man of fifty years, with a smooth, fixed swelling in the left side of the neck, pressing upon the trachea. It caused difficulty in breathing and slight paralysis of the left vocal cord. On removal, it was found to be an encapsulated endothelioma.

A New Operation for Depressed Fracture of the Nose.

T. G. Ouston (*British Medical Journal,* September 26, 1908) reports a new method of treating depressed fractures of the nose. He says that this accident occurs more often than the literature of medicine tells us, and that but little attention is paid to the proper treatment of it in practice. If internal displacements occur, submucous resections of the septum and allied operative procedure are usually carried on later in life, if at

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the time of the accident the patient is young. If external deformity occurs, a child with this condition is brought to the surgeon for advice, and one of the four following opinions is probably given: (1) that the child will grow out of it; (2) that nothing can be done; (3) that the surgeon will try to rectify the condition, but that success is very doubtful; (4) that after the child has attained full growth, the deformity can be corrected by the injection of paraffin.

Time will show the fallacy of the first opinion. The second is eminently unsatisfactory, albeit honest in intent. The third has been given four times in four cases by this writer; the first two results were failures, the third, however, a success. The method by which this success was obtained is as follows: The patient, a girl of ten years, had fallen on her nose a few weeks previously. The upper lateral cartilages were displaced backwards from the nasal bones and separated posteriorly from their attachments to the nasal processes of the superior maxillæ. The lower ends of the nasal bones projected, with a depression below them where the trianglular cartilage was markedly indented. The operation was performed by passing a tenotome subcutaneously through the side of the nose at the site of the depressed nasal cartilages, dividing the structures uniting them posteriorly with the nasal bones and the nasal processes of the maxillæ. By transfixing the nose with this knife, the whole nasal mass could be uplifted to the normal level. The nasal bones were transfixed with a large, strong needle as near their common anterior suture as possible, this being effected by means of sharp taps with a mallet. Strips of gauze were then wound around the two needles on each side in a figure-of-eight manner. The upper needle acting as a fixed point assisted in bringing up the depressed parts by tightening the strips. Although some local swelling occurred, no constitutional effects were seen. The child was quite confortable, and on the tenth day the needles were removed, leaving behind as a result of the treatment only two small pressure ulcers where the strips had rested. These healed in a few days. Six months have elapsed, and the nose still preserves its normal appearance, justifying the excellence of this new operative procedure.

Professor Koch's Views on the Prevention of Plague.

Professor Kitasato (U. S. P. H. and M. H. S., Public Health Reports, September 11, 1908, translated from the Tokyo Jiji Shimpo, July 22 and 23, 1908, by Passed Assistant Surgeon Moore) states that:

Not only has plague in Japan occasioned great expenditure of public money and labor, but the indirect losses through interruption of commercial intercourse and interference with business undertakings can not be easily estimated.

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Since the discovery of the cause of the disease increasingly exact investigations into the avenues of infection have rendered us familiar with the extremely important rôle that anti-rat measures play in its prophylaxis. Such measures were enforced at an early date in this country, and the number of rats destroyed has reached an annual total of from several hundred thousand to a million. Nevertheless, at the present day no appreciable diminution in the number of rodents can be noticed. Reproduction keeps pace with destruction, so that we are at a loss to know how to proceed. When we consider that on the one hand plague has already obtained a firm foothold in two or three localties in Japan, and on the other hand, that new infective material is being constantly introduced from abroad, it would appear that the absolute suppression of the disease is an almost impracticable task.

However correct may be the underlying theories upon which we base our procedures, antipest measures, being of a negative character, and necessarily involving great expenditure of time and money extending over a long period, are apt, eventually, to incur the disfavor of the public at large. Consequently, they are not properly carried out. Therefore the urgent need of the present time is a plan for the destruction of rats, simple of application and requiring a minimum expenditure of time and labor—a demand, however, that we are not yet in a position to meet.

Taking advantage of the recent visit of the eminent bacteriologist, Robert Koch, to this country, I laid before him in detail the present status of the plague epidemic, and requested his advice in the premises. As his views, which I had the good fortune to obtain, touch upon some points of vital importance in the prophylaxis and eradication of plague, I give a résume, as follows:

"The rat is the chief agent in the diffusion of plague, and our preventive measures must be based on this principle. The encouragement of the destruction of rats, as early practiced in Japan, is an eminently proper procedure, but in the extermination of animals of such great reproductive power the use of artificial methods, like mechanical devices and poisonous drugs, must prove laborious, expensive, and at the same time comparatively inefficient. On the other hand, in the natural world the mutual relations of living things is extremely intricate and subtle, and by paying attention to this point we may discover natural methods of dealing with this problem, the limited powers of man being far inferior to the boundless resources of nature.

"Permit me to cite two or three instances of the very successful utilization of the natural correlation between living beings which may, by analogy, serve to illustrate the proper means to be employed in the work of demurization. Some years ago an amateur botanist admiring its pretty flowers, introduced a verbenaceous plant called *lantana* from America into

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the Hawaiian Islands. Through the agency of birds its seeds were distributed broadcast. It soon became disseminated throughout the entire group of islands as a harmful weed to the great detriment of agriculture. In its native land, Mexico, this plant does not flourish to the same disastrous extent. At the end of a careful investigation it was discovered that there exists in Mexico a species of small fly called *agromyza,* which deposits its eggs within the seed of the *lantana* aad thus checks increase of the plant. This fly was introduced into Hawaii and propagated, with the result that in a few years the omnipresent *lantana* pest showed signs of diminution.

"Another remarkable example is found in the *Perkinsiella saccharicida,* a species of leaf-hopper injurious to the sugar cane in the Hawaiian Islands. This insect is parasitic on the stalk and leaves of the sugar-cane, extracting the juice, and is a source of such great damage that in the period of four years, between 1901 and 1904, the amount of loss occasioned by it reached the enormous sum of several million dollars. On this account the Sugar Planters' Association established an experiment station, and dispatched specialists to distant parts of the world for the purpose of investigating methods for the destruction of injurious insects and of searching for an enemy of this insect. Thus there was discovered in Australia a species of ant-like animal named *aphanomerus pusillus* parasitic within the egg mass of the leaf-hopper. This beneficial insect was introduced into Hawaii in the year 1904, and propagated with the result that the great insect pest of the sugar-cane, *Perkinsiella,* has shown a remarkable diminution, and no longer causes the damage of former years. These two instances prove how beneficial to human activity is the study of the mutual interdependence between living beings in the realm of nature.

"Again, in Japan, we find that, as a consequence of increasing interest in fruit culture, foreign apple trees have been imported from America and assiduously cultivated. Nevertheless, through the ravages of the woolly *aphis,* which was introduced at the same time, I learn that at present throughout the Tohoku District scarcely a single healthy fruit tree can be found. This condition of affairs is clearly due to an imperfect knowledge of the interrelation existing in the natural world.

"Successful demurization must be based on this principle, namely, the seeking out and the utilization of the natural enemies of the rat. From an early date I have been carrying on researches regarding the enemies of rats, and have used in my experiments a number of voracious animals, among them the ichneumon of Egypt, the mongoose of India, as well as the common European ferret. As well as devouring rats these animals attack domestic poultry, so that their beneficial effects are offset by the loss they occasion, and their practical value is *nil.* On the other hand, from ancient times, cats have been the most common and best-known to man of the enemies of the rat. When properly trained they do us no harm, and are in

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all respects most fitted for the task before us. Though these facts are familiar to every one, they have not yet been practically utilized in the prophylaxis of plague. Random researches in distant lands will not necessarily lead to the successful accomplishment of our object. The most useful things are rather to be found among the commonplace and the readily accessible, as in this instance.

"However, in employing cats for this purpose we should determine a certain system, and follow it out in an orderly manner, in the main, as follows:

"1. Pass laws requiring each house to keep a certain number of cats and cause the police to make frequent inspections.

"2. By establishing a system of prizes, seek for cats of approved ability as ratters.

"3. Carry on a world-wide search for strains of cats especially skilled as ratters and encourage their introduction and propagation.

"4. We should stimulate interest in the breeding of improved strains of cats by promoting cat shows, etc., just as in the case of horses and cattle.

"5. Vessels plying betweeen plague-infected ports should be obliged to carry a fixed number of cats, the number depending upon the tonnage of the vessels.

"6. Building regulations should require that attics and other places frequented by rats be provided with openings large enough to admit cats.

"7. In the case of plague-infected districts or areas threatened with invasion by plague, special companies of cats should be organized and at fixed intervals they should be isolated and the presence or absence of plague among them should be determined.

"The above is merely a sketch in rough detail of a scheme for employing cats in antipest work. The method is extremely easy of execution and by no means involves great expense. Further, as its efficacy is not merely of temporary duration, we should eventually accomplish our object of exterminating the rat. Moreover, during the time of a plague epidemic, the trouble involved in rat examinations should be lessened. If from time to time we isolate and keep under observation the cats that have been feeding upon rats, not only do we obviate any fear of spreading the infection, but at the same time we have a means of determining the exact extent of the spread of the disease.

"Since a multitude of artificial devices of human contrivance are not equal in efficiency to one of nature's methods in destroying rats during antipest campaigns, the most efficacious means of accomplishing our object is the utilization of the cat."

Beginning with such places as Osaka and Kobe, where plague infection constantly lies dormant, the encouragement of the breeding of cats with a view to demurization is the urgent duty of the present hour.

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EDITORIAL

PHYSIC AND PHARMACY.

The President of the British Pharmaceutical Conference, Mr. Robert Wright, at the recent meeting of that body at Aberdeen, as we learn from the *British Medical Journal,* devoted a considerable part of his annual address to the discussion of counter-prescribing on the part of the druggist and dispensing on the part of the medical man. Mr. Wright, while he acknowledges that there are limits beyond which the druggist ought not to go, claims, to use his own words, "that the counter-prescribing of simple remedies for simple ailments is quite in harmony with the fitness of things," and ought to be permitted without protest from the doctors. He thinks, as if there were no other alternative, that it is better for the druggist to prescribe harmless remedies for ordinary diseases than for the doctors to dispense, or for the people to dose themselves with patent medicines. He fails, however, to state how the pharmacist or his customer arrives at anything like a correct diagnosis of the "simple" ailment to be treated, the *sine qua non* for the intelligent treatment of any disease.

As is usual with druggists, when they attempt to defend counter-prescribing, Mr. Wright sails into the physicians for dispensing and for using proprietary remedies, as if one wrong practice justified another, and asserts that the physician who prescribes medicines of unknown composition and strength for diseases about which he is supposed to be able to diagnose correctly, is more culpable than is the pharmacist who prescribes drugs of which he knows more than anyone else for diseases and ailments of which he knows little. In other words, while he admits that both are culpable, the physician, he contends, for the reasons set forth, is the more so. And then he goes on at length to show the dangers to the public which must accompany the dispensing of medicines by the doctors.

We can not concur with Mr. Wright's conclusions as regards these questions. In the first place, one offense does not justify another and the *tu quoque* argument is a mighty weak one, always. By no sound process of reasoning can the right of the pharmacist to take upon himself the responsibility of prescribing be sustained, even though the ailment he attempts to treat may appear to him to be a "simple" one, and he employs only "simple" drugs in his treatment. What may seem like a "simple" ailment to the pharmacist may, in reality, be the premonitory expression of some grave disorder, which the practiced eye of the trained physician only would be able to detect. The treatment, therefore, which the pharmacist may employ, though it may be ever so simple,—though it may not

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directly harm the patient,—may cause delay, which might result in much suffering to the patient, if not in the loss of his life. The druggist, presumably, makes his diagnosis of the "simple" ailment from subjective symptomatology and mere casual inspection. Certainly, he is not qualified or in a position to examine the patient's body with that care and completeness which is necessary for purposes of diagnosis. In short, it is not the function of the pharmacist to diagnose disease at all. It is his duty, only, to understand the practice of pharmacy, and if he has acquired proficiency in his own science, he has accomplished much, and nothing more can be expected of him.

We do not undertake to say that absolutely and under no possible circumstances can the pharmacist legitimately recommend medical treatment, for in great emergencies rules must give way to common sense. Under extreme circumstances, however, the pharmacist will act on his judgment regardless of any and all rules, and he needs not to be told that he can do so. But he should bear in mind that, even in these cases, he is going outside his province, and is treading on forbidden ground. When, therefore, a man in Mr. Wright's position contends before a body of pharmacists that they may prescribe, even under extreme circumstances, there is danger that he will be misunderstood—he will appear to many in the light of defending the practice of prescribing on the part of druggists as a right, and not as a privilege to be exercised with great caution, which is quite a different thing.

If he educates pharmacists to the idea that they have a right to prescribe "simple remedies for simple ailments," there is great danger that self-interest may step in and influence their judgment as to what *are* "simple" remedies and simple ailments, with the result that, the bars being once thrown down, counter-prescribing will become the rule rather than the extraordinary exception, which it should be.

NEPHRITIS IN INFANCY.

Nephritis is more common in infancy than many practitioners believe. Repeated and routine examination of the urine of infants is not nearly so rigorously carried out as it ought to be. Some explain this on the ground that the matter of collecting the urine of infants is difficult in private practice. This is not true. It is very easy to catheterize a young baby and obtain a sample in that way. The catheterization of the bladder of a young child can easily be effected with a small rubber catheter, using the usual precautions of asepsis in doing so. If it is not practical to obtain it under these proper conditions, the urine can be collected in boys by securing the penis in the orifice of a china or vulcanized bottle, and in girls by placing a cup over the vulva in the napkin or by a boat-shaped vessel retained in a position by strapping or by a many-tailed bandage.

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It is a mistake to suppose that edema is always an accompaniment of nephritis in infancy. This is more apt to be the exception than the rule. Definite nephritis in association with gastro-intestinal catarrh, occurring with or without fever, is also quite common and should not be overlooked by the careful practician. Albuminuria may be associated with any complaint of the gastro-intestinal tract and with simple dyspepsia even, apart from definite pathological alterations in the renal epithelium. The acute infections like scarlatina seldom attack infants, so this can be disregarded as a source of infantile nephritis. Pneumonia, varicella, erysipelas, meningitis, eczema, impetigo contagiosa, aphthous stomatitis, tonsillitis and tetanus represent frequent causative agents for nephritis in infancy. It appears that syphilitic virus retards renal development, and pathological changes have been found in the kidneys, ante-natal and post-natal. These changes may be glomerulitis, cystic degeneration of the glomeruli, fibrous thickening of the capsules of the glomeruli, etc.

Another fact to explain the belief of the profession in the infrequency of nephritis in infancy is the lack of proper and careful observation at autopsy of renal changes in such cadavers. Kidneys may *look* healthy to the naked eye at autopsy, yet microscopical examination will show decided changes from the normal. Therefore, a better understanding of the frequency of this condition will only come with microscopic study of kidneys at autopsy and routine urinary examinations in every sick infant.

THE CANCER PROBLEM.

There are two problems which confront the medical profession today: tuberculosis and cancer. The one has practically been solved, the other is still with us, unfathomable, of unknown cause, and, consequently, no true scientific treatment has yet been discovered for it. We know what causes tuberculosis and we know how to diagnose it early. And if it is diagnosed early, the most skeptical therapeutists must now admit that its cure is easy if the patient only follows intelligent medical advice regarding living in the free air and the eating and drinking of proper food. That tuberculosis is very contagious is also admitted, and preventive medicine is making great strides in checking the spread of this contagion.

With cancer, we find other less flattering conditions. Not knowing the cause, we can take no steps to check its apparently constantly increasing prevalence. It is true that there are some in the front ranks of medicine who continue to regard cancer as a microbic disease, but no man has ever yet scientifically demonstrated that this is true. The history of medicine in regard to cancer shows that this disease was known even in the days of Hippocrates. Ever since his time there have been numerous attempts

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made to find the cause of cancer, but all have been futile. The minute structure of cancer was not known until the advent of the microscope into the domain of medicine in the first half of the last century. While we know its minute anatomical structure intimately at this time, we are as far from knowing anything about its true etiology as were Hippocrates, Galen, Celsus, Ambrose Paré and others of the ancients in medicine who wrote so interestingly of this disease. And yet, even though we find running down the ages, century after century, most outlandish explanations of the causation of cancer, each in turn overthrowing another and each again being toppled over by other theories, the treatment has been consistently surgical. It is to the knife that the ancients in medicine looked for relief in the treatment of cancer, and it is to the knife that the modern surgeon fastens his faith upon the curability of this disease. The ancients said, remove the tumor and if it does not come back, it is not cancer. If it comes back, it *is* cancer. Today the modern surgeon removes a piece of the suspicious growth, if it is situated in an accessible region, examines it microscopically, and then does a wide extirpation if he finds it is cancerous. He maintains that if the diagnosis is made early, the cure by wide extirpation is positive.

This brings up the question of the hopelessness in cases of cancer that are situated within the body in structures that are inaccessible to our methods of examination. Some promise seems to be forthcoming from the work of Crile, who has introduced the hemolytic test into the domain of early cancer diagnosis. He claims that with this test, by hemolysis, we shall be able to ascertain the existence of a cancer that is situated within the internal viscera in the earliest stages of the disease. This will bring occult cancer up to the plane of visible cancer, and will materially lessen the mortality of the disease by the institution of early radical surgical treatment. If this hemolytic test becomes a practical and successful diagnostic agent, cancer will no longer be that dreaded disease for both patient and physician. If by means of this new test the cancerous growths that affect stomach, liver, kidneys, etc., can be made out early and removed, then the term "cachexia" will be no longer heard—a consummation of Roswell Park's hope recently expressed that this term ought to disappear from the literature of medicine.

ARMY MEDICAL CORPS EXAMINATIONS.

The Surgeon-General of the Army announces that the first of the preliminary examinations for the appointment of first lieutenants in the Army Medical Corps for the year 1909 will be held on January 11, 1909, at points to be hereafter designated.

Full information concerning the examination can be procured upon application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant

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shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine; shall be of good moral character and habits, and shall have had at least one year's hospital training or its equivalent in practice. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature and Latin) may be omitted in the case of applicants holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant-General on or before December 10, 1908. Early attention is therefore enjoined upon all intending applicants. There are at present fifty-seven vacancies in the Medical Corps of the Army.

NEW YORK MEDICAL EXAMINATION QUESTIONS.

ANATOMY.

TUESDAY—9:15 a. m. to 12:15 p. m., only.

Answer any ten of the questions on this paper but NO MORE. *Check (V) the number of each one of the questions you have answered.*

1. Give the gross anatomy of the foot, including the names of the bones.

2. What is the diaphragm and where is it situated? Mention the principal openings of the diaphragm.

3. What are the valvulæ conniventes? Where are they found and how are they formed?

4. Give the origin, course and distribution of the great sciatic nerve.

5. Describe the azygos veins.

6. What blood vessels pass (*a*) to the liver, (*b*) from the liver?

7. Describe the external abdominal ring.

8. Give the origin, insertion, blood supply, nerve supply and action of the sternoclidomastoid muscle.

9. Give the anatomy of the gall bladder; state its location and its relations.

10. Describe the glomeruli (Malpighian bodies) of the kidney.

11. Describe the hip-joint.

12. Locate and describe the fourth ventricle of the brain.

13. Describe the peritoneum and its reflections.

14. What are the ovaries and where are they situated?

15. Describe the esophagus as to (*a*) location, (*b*) structute, (*c*) length and caliber, (*d*) direction, (*e*) blood and nerve supply.

PHYSIOLOGY.

TUESDAY—1:15 to 4:15 p. m. only.

Answer any ten of the questions on this paper but NO MORE. *Check (V) the number of each one of the questions you have answered.*

1. Name the kinds and give the functions of epithelium. In what parts of the body is epithelial tissue found?

2. Describe fully the functions of red blood corpuscles.

3. Name the ductless glands. What are the theories as to their respective functions?

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4. What is the ratio between the respiration and the pulse? What is the average measurement of the male adult chest in (*a*) deep expiration, (*b*) complete inspiration?

5. In the process of deglutition what structures prevent the food from passing into the larynx and posterior nares?

6. What conditions produce indican during digestion? What conditions produce it in excess?

7. Describe fully the physiologic process of the dissipation and conservation of animal heat.

8. What are the nutritive elements in (*a*) eggs, (*b*) meats, (*c*) cereals, (*d*) fruits?

9. State the physiologic action of the chief constituents of gastric juice on food. What are the mechanical and other processes concerned in the disposition of the products of gastric digestion?

10. Describe the nervous mechanism of perspiration (transpiration). What conditions influence the activity of perspiration?

11. Describe in detail the method of communication between two nerve units.

12. Name and locate the special nerve centers of the spinal cord.

13. What is meant by accommodation? What is the range of accommodation of the normal eye?

14. Describe muscular sense and explain its relation to locomotion.

15. Define puberty and state at what age it ordinarily occurs. What changes occur in the body of the male and of the female at puberty?

CHEMISTRY.

WEDNESDAY—1:15 to 4:15 p. m., only. *Answer any ten of the questions on this paper but* NO MORE. *Check (V) the number of each one of the questions you have answered.*

1. Distinguish between (*a*) metals and non-metals, (*b*) organic compounds and inorganic compounds.

2. What are the constituents of atmospheric air? Describe ozone.

3. Where in the body is phosphorus chiefly found? How is phosphorus eliminated from the body?

4. What causes the light of a flame? Give the preparation and the chemical properties of carbon.

5. Describe sodium as to (*a*) occurrence, (*b*) uses, (*c*) compounds.

6. Give the chemical name, the common name, the chemical uses and the properties of $CaSO_4$.

7. What is ferrous sulfate and how is it prepared?

8. Give the names, the symbols and the atomic weights of ten metallic elements.

9. Give the names, formulas and physical appearances of *two* salts of mercury.

10. Describe a method for recognizing (*a*) bile in the urine, (*b*) blood in the urine.

11. What is soap? Give the composition of hard and of soft soap and describe the manufacture of each.

12. Give a method of preparing acetic acid. State the properties and the laboratory uses of acetic acid.

13. How is diastase formed and what is its action on starch?

14. Define alkaloids and give their properties.

15. Describe uric acid as to (*a*) formula, (*b*) properties, (*c*) solubility.

HYGIENE AND SANITATION.

WEDNESDAY—9:15 a. m. to 12:15 p. m., only.

Answer any ten of the questions on this paper but NO MORE. *Check (V) the number of each one of the questions you have answered.*

1. What is the condition of the atmosphere at high altitudes? Explain how high altitudes affect respiration.

2. What sanitary precautions should be considered in deciding on a method of heating dwelling houses?

3. For the purpose of nourishment what should be the proportion of nitrogenous foods to non-nitrogenous foods? What advantage, if any, is derived by the ingestion of food in small portions at stated intervals rather than at one full meal?

4. What are the functions and properties of stimulants?

5. To what temperature is milk subjected in (*a*) sterilization, (*b*) Pasteurization?

6. What injurious effects may cemeteries have on the health of persons living near them?

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t diseases of cattle render shall be a unfit to eat?

thirty years of age, diseases that are by a specific organ- confer the degree of case the specific acter and habits, and s or its equivalent in practice that should throughout the country at p hen may disease consideration will be given to h ceived, in order to lessen the t possible.

The examination in subje raphy, history, general liter of applicants holding diplo leges, normal schools or h which require an entrance Army Medical School.

In order to perfect appl st be co on cember up app in

sentation to both mother and child, and give the management.

10. In what conditions may the uterine curet be employed? What dangers are to be avoided in its use?

11. Give the symptoms and the treatment of endometritis.

12. Define cystitis in the female and give its causes.

13. Make a diagnosis of retrodisplacement of the gravid uterus. State the dangers of such a condition.

al Make a differential diagnosis of itin) polypus and inversion of the

putable the technic of catheterizaor grad early labor and state the satisfacto beset the operation.

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AMINATION QUESTI (*b*) silkworm horsehair, (*e*)

10. Describe the glom hian bodies) of the kidney ia, (*b*) pye-

11. Describe the hip-jo he symptoms

12. Locate and describe d the surgiventricle of the brain.

13. Describe the peritone he liver. reflections. nent of an

14. What are the ovaries a ompanied re they situated?

15. Describe the esophagus as d how cation, (*b*) structute, (*c*) length liber, (*d*) direction, (*e*) blood sarrve supply.

PHYSIOLOGY.

TUESDAY—1:15 to 4:15 p. m. only.

Answer any ten of the questions of *this paper but* NO MORE. *Check* (res *the number of each one of the questio* ng *you have answered.*

1. Name the kinds and give the functions of epithelium. In what parts of the body is epithelial tissue found?

2. Describe fully the functions of red blood corpuscles.

3. Name the ductless glands. What are the theories as to their respective functions?

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11. Describe the early symptoms of knee-joint inflammation and state conditions for which it may be mistaken.

12. How may retention of urine and suppression of urine be differentiated? What treatment is indicated in sudden and complete urine retention?

13. What are the symptoms and the possible results of chronic purulent inflammation of the middle ear?

14. Give the symptoms and the surgical treatment of atrophic rhinitis.

15. Give the indications for nerve suture and describe the operation.

PATHOLOGY AND BACTERIOLOGY.

FRIDAY—9:15 a. m. to 12:15 p. m., only.

Answer any ten of the questions on this paper but NO MORE, *selecting six from Pathology and four from Bacteriology. Check (V) the number of each one of the questions you have answered.*

PATHOLOGY.

Answer six questions from the Pathology group but no more. Group I:

1. Describe hematolysis.

2. What general pathologic conditions may result from exposure to a high temperature?

3. Mention a protozoa and describe the pathologic changes that may result from its activity.

4. What is edema? Describe the appearance of tissue affected by edema.

5. Give the macroscopic and the microscopic appearance of a uterine fibroma.

6. Describe the appearance of the bones in osteomalacia.

7. What conspicuous pathologic changes result from an attack of so-called gout?

8. Give the pathology of scabies.

9. Describe healing by (*a*) first intention, (*b*) second intention.

BACTERIOLOGY.

Answer four questions from the Bacteriology group but no more. Group II:

1. Mention *four* conditions that retard or prevent bacterial growth.

2. What is (*a*) a culture, (*b*) a pure culture?

3. How is the gonococcus differentiated from other diplococci?

4. Name the supposed micro-organism of cerebrospinal meningitis, and state how the bacteriologic diagnosis is made.

5. Describe the technic of making a bacteriologic diagnosis of diphtheritis.

6. Describe the colon bacillus and give *three* culture characteristics that distinguish the colon bacillus from the typhoid bacillus.

DIAGNOSIS.

FRIDAY—1:15 to 4:15 p. m., only.

Answer any ten of the questions on this paper but NO MORE. *Check (V) the number of each one of the questions you have answered.*

1. Mention instruments of precision used in the diagnosis of diseases of the larynx. Illustrate.

2. Define (*a*) lavage, (*b*) gavage. State the diagnostic value of each.

3. Differentiate cystic hematuria and renal hematuria.

4. What diseases are associated with a skin eruption of diagnostic value? Illustrate.

5. State the symptoms of acute cerebral meningitis in infants.

6. Distinguish functional heart murmurs from organic heart murmurs.

7. Give the symptoms and the physical signs of movable kidney.

8. What are the points of diagnostic value in the second and third stages of syphilis?

9. How may the feces of the patient be of diagnostic value? Give *two* practical illustrations.

10. Outline the clinical history of an uncomplicated case of lobar pneumonitis terminating in recovery.

11. Give the essential symptoms and the physical signs of cholelithiasis.

12. Define (*a*) amphoric râles, (*b*) cavernous râles, (*c*) subcrepitant râles. Give the clinical significance of each.

13. State the value of the X-ray as an aid to diagnosis. What dangers are to be feared in the employment of the X-ray and how should these dangers be guarded against?

14. Illustrate the diagnostic value of the microscope in a suspected case of (*a*) appendicitis, (*b*) carcinoma, (*c*) tuberculosis, (*d*) diphtheritis, (*e*) gonorrhea.

15. Outline the area of (*a*) normal spleen dullness, (*b*) normal heart dullness, (*c*) normal liver dullness.

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BOOK NOTICES.

DISEASES OF CHILDREN.—By William Nelson Mundy, M. D., Professor of Pediatrics in the Eclectic Medical Institute, Cincinnati, Ohio. Second revised edition, illustrated, 8-vo, 512 pp. Cloth, $3.00. The Scudder Brothers Company, Publishers, Cincinnati, Ohio.

This is a very good eclectic text-book on diseases of children. It goes over the entire subject carefully, and is to be recommended to those who desire information upon the eclectic form of teaching. The illustrations are good.

MEDICAL GREEK.—Collection of Papers on Medical Onomatology and a Grammatical Guide to Learn Modern Greek. By Achilles Rose. New York, 1908. Peri Hellados Publication Office.

Dr. Rose needs no introduction to our readers as an authority on the Greek language, as he has favored our readers with many articles on the subject of the reform of medical language and the use of correct Greek terms instead of the many hybrids now in vogue. This little work consists of a collection of thirteen papers on Medical Greek, including one translation from the German of Dr. Herbert Kruger on the subject of learning modern Greek for those who know classical Greek. Rose's little volume is a valuable treatise, and should be read by every one who is in favor of exact nomenclature in science.

ESSENTIALS OF DIETETICS IN HEALTH AND DISEASE.—A Text-Book for Nurses and a Practical Dietary Guide for the Household. By Amy Elizabeth Pope, Author, with Anna Caroline Maxwell, of "Practical Nursing," and Instructor in the Presbyterian Hospital School of Nursing; Instructor in Dietetics in the Schools of Nursing of the New York Hospital, Mt. Sinai Hospital, and Smith's Infirmary, Staten Island, and Mary L. Carpenter, Director of Domestic Science of the Public Schools, Saratoga Springs, N. Y. Illustrated. G. P. Putnam's Sons: New York and London. The Knickerbocker Press, 1908.

This is a work essentially necessary for the nurse who wants to know the "inside" of her profession. It deals with a question of paramount importance to one who is attempting to co-operate with the physician in his remedial efforts. This book aims to teach the nurse something of the chemistry of foods, and also is a practical treatise upon the manner of preservation and preparation of foods for sick people. It tells not only how to select and cook the food, but it even tells how to serve it. The field is a most important one, and the subject is thoroughly considered.

THE NEW PSYCHOLOGY, Its Basic Principles and Practical Formulas.—By A. A. Lindsay, M. D. Eugene and Arthur Lindsay, Publishers, Portland, Oregon. "Manufactured" by The Portland Printing House, Tenth and Taylor Streets, Portland, Oregon.

This is a book that deals with the powers, attributes, qualities and classifications of all the mental functions of the individual, and the methods of their working, and formulas for directing their operation for definite results. Dr. Lindsay has made a thorough study of hypnosis and its application to the treatment of disease. He has made an enviable reputation in this line by his private courses to physicians. To those who were not fortunate enough to have taken one of these courses, we can recommend this book as the next best thing in getting light on the new psychology.

ELECTRICAL TREATMENT.—By Wilfred Harris, M. D., F. R. C. P., Physician to Out-Patients, Physician to the Department of Nervous Diseases, and Lecturer on Neurology, St. Mary's Hospital; Physician to Out-Patients, Hospital for Epilepsy and Paralysis, Maida Vale. Illustrated. Chicago: W. T. Keener & Co., Price, $2.25 net.

This work on electrical treatment is the fifth of a series of five, entitled, "Modern Methods of Treatment." The purpose of the book is to demonstrate that there is a certain definite field of usefulness for the galvanic current in the treatment of certain medial disorders, to-wit: In acute sciatica, brachial neuritis, and other forms of perineuritis. There are many physicians who are tempted to take up electro-therapy, but have no way of getting instruction about the usage of the various electrical devices, save from the "salesman" who takes their order—certainly not a reliable person to go into the minutiæ with a medical man on this complicated subject. To such individuals this little book can be especially commended. It will tell you exactly how the electric treatments may be given. While to some of us there seems nothing roseate about the results to be obtained from electro-

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therapeutics, there are others who fairly bow down before the shrine of Volta, claiming that most excellent results are obtainable from the judicious use of electricity in its many forms. To those of the profession who wish to investigate for themselves whether electro-therapy is a good thing, or whether it is a delusion and a snare, we commend this work as a manual for guidance over the roads to an acquirement of a sufficient working knowledge to test the question.

NEUROLOGICAL AND MENTAL DIAGNOSIS; A MANUAL OF METHODS.—By L. Pierce Clark, M. D., Senior Attending Physician in the Hospital for Nervous Diseases, New York, etc., and A. Ross Diefendorf, M. D., Lecturer in Psychiatry in Yale University, etc. New York: The Macmillan Company, 1908. Price, $1.25 net.

This is a working manual for the instruction of those who wish to perfect themselves in the art of making neurological and mental diagnoses. The careful examination of the nervous system is no easy matter, and he who wants to come to a clear diagnosis in a given neurological case must go over the patient from head to foot, and test all the sensory and motor parts of the cerebrospinal and sympathetic systems that are accessible to external examination. This book will serve as a useful manual for physicians who desire to keep abreast of the times in neurological diagnosis.

A TEXT-BOOK OF HUMAN PHYSIOLOGY, Including a Section on Physiologic Apparatus.—By Albert P. Brubaker, A. M., M. D., Professor of Physiology and Hygiene in the Jefferson Medical College; Professor of Physiology in the Pennsylvania College of Dental Surgery; Lecturer on Physiology and Hygiene in the Drexel Institute of Art, Science and Industry. Third edition, revised and enlarged. With colored plates and 383 illustrations. Philadelphia: P. Blakiston's Son & Co., 1908. Price, $3.00 net.

This excellent work on physiology is now in its third edition. The domain of physiology is well covered by Brubaker. The book is a good text-book for the student, and a good reference book for the practitioner. To those who desire to make physiologic experiments, we can especially recommend the volume, as it contains a well-written and well-illustrated chapter on physiologic apparatus.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures.—By Leading Members of the Medical Profession Throughout the World. Edited by W. T. Longscope, M. D. Volume II, eighteenth series, 1908. Philadelphia and London: J. B. Lippincott Company, 1908.

There are some twenty-four original articles and lectures in this second volume of the Eighteenth Series of International Clinics. The subject heads are Treatment, Medicine, Surgery, Gynecology, Ophthalmology, Dermatology, Orthopœdics, Pediatrics and Pathology.

The articles are all worth special mention, but space forbids it. A practical paper is that on the "Treatment of Varicose Veins," by Willmoth. Another valuable paper is that by H. Gideon Wells on "Malignant Renal Hypernephromata." The volume before us keeps up the high standard of medical literature that has been set by the preceding numbers.

A MANUAL FOR MIDWIVES.—By C. Nepean Longbridge, M. D. (Vict.), F. R. C. S. (Eng.), M. R. C. P. (Lond.), Pathologist and Registrar, late Resident Medical Officer at Queen Charlotte's Hospital, Examiner to the Central Midwives' Board, Lecturer on Midwifery for London County Council. Philadelphia: P. Blakiston's Son & Co., 1908. Price, $1.40 net.

This book, so states the author in his preface, is designed for midwives. Its language is, therefore, very simple, and as devoid of technical terms as it is possible to make any medical work intended for practical lay readers. The points discussed in the book are the regular obstetrical questions of anatomy of the pelvis, physiology of pregnancy, mechanics of labor, asepsis and antisepsis, etc. The book will be found useful among the class for which it was written.

REPRINTS RECEIVED.

Dr. Fred J. Taussig, "The History of Mole Pregnancy." Reprint from *Medical Library and Historical Journal*, December, 1907.

Dr. Phil Hoffman, "A Statistical Study of the Relation Between the Height of the Longitudinal Arch and the Function of the Foot." Reprint from *American Medicine*, August, 1908.

Dr. R. L. Thompson and Dr. D. L. Harris, "A Consideration of the Pathological Histology of the Parathyroid-Like Tumor." Reprint from *The Journal of Medical Research*, July, 1908.

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VOL. XXXVI. No. 12. ESTABLISHED 1873. Whole No. 432.

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A Monthly Journal of Practical Medicine

DECEMBER, 1908

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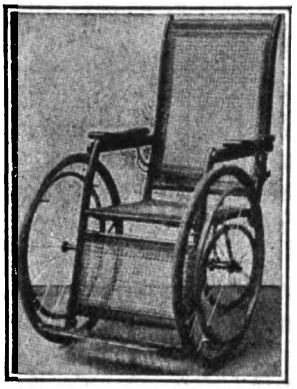

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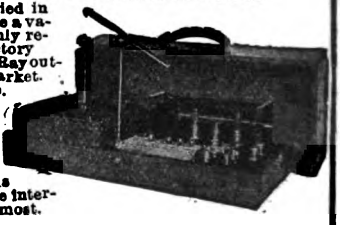

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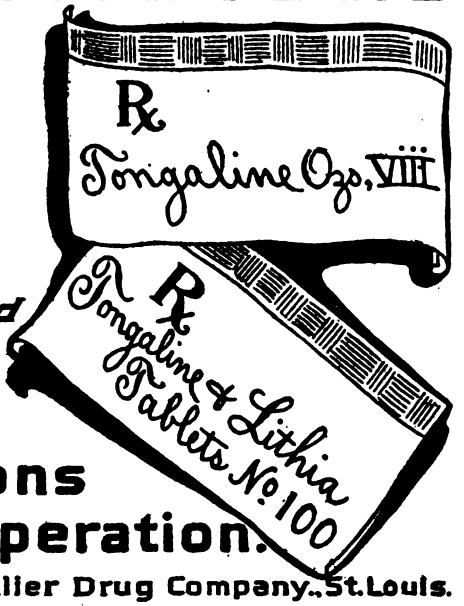

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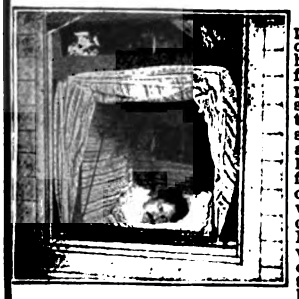

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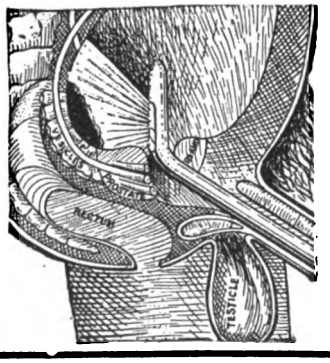

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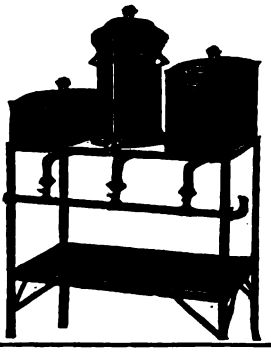

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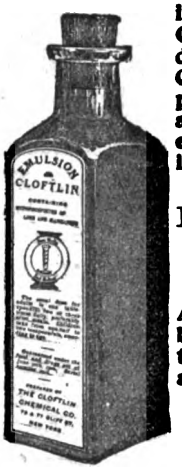

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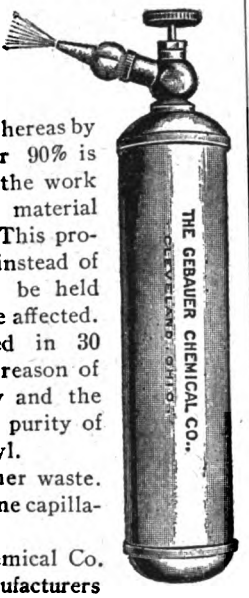

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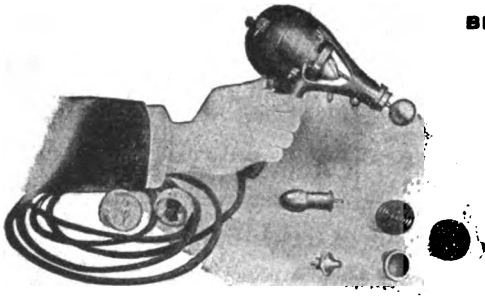

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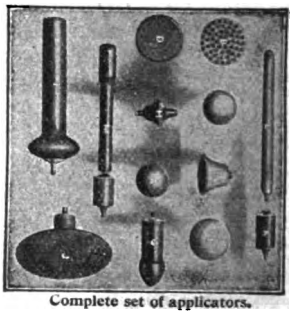

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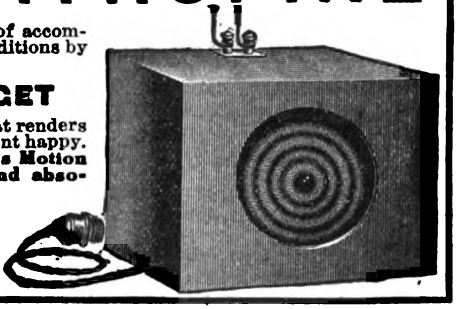

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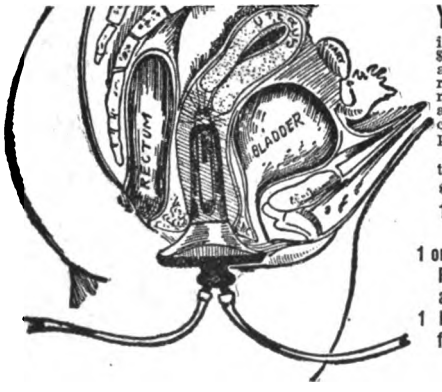

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Dr. Fred J. Taussig, "The Development of the External Genital Organs of the Female, with Special Reference to the Hymen." Reprint from *Interstate Medical Journal*, 1908.

Dr. L. R. Thompson and Dr. W. E. Leighton, "The Result of Chronic Parathyroiditis, as Obtained by Ligation of the Parathyroid Glandules in the Dog." Reprint from *The Journal of Medical Research*, July, 1908.

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VOL. XXXVI—No. 12. DECEMBER, 1908. WHOLE No. 432.

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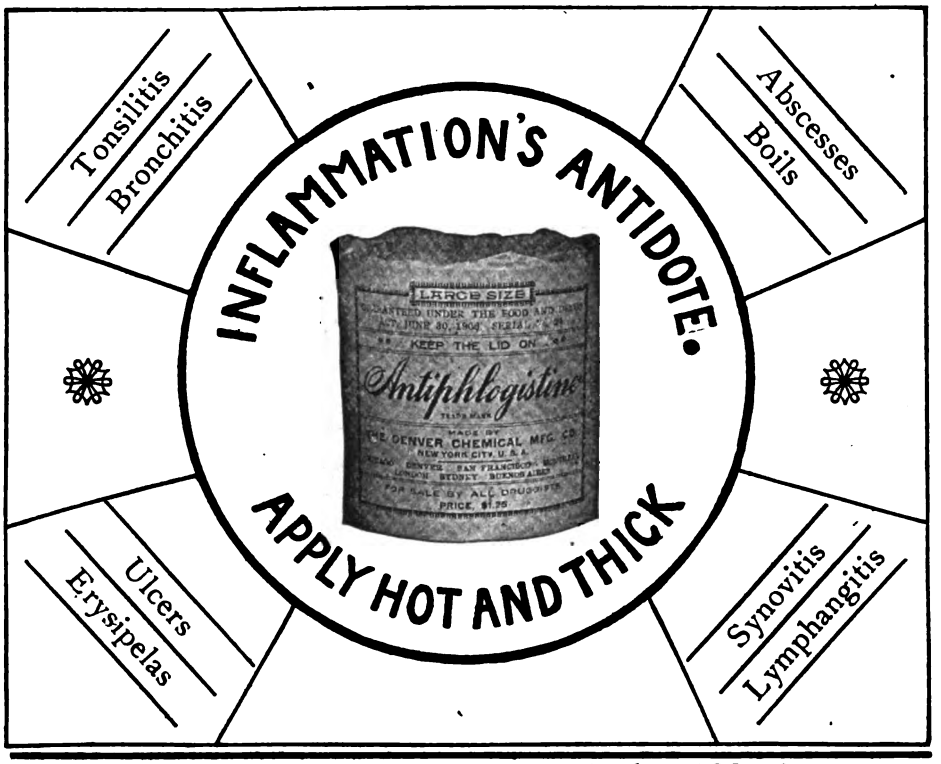

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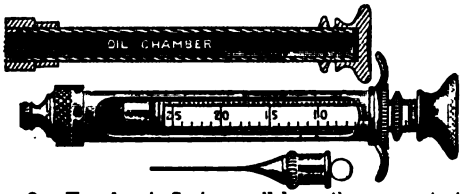

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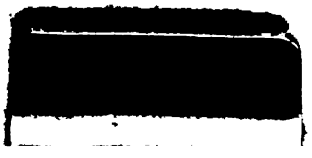

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